ORDER NO. VRD9310M136

Service Manual

Video Cassette Recorder

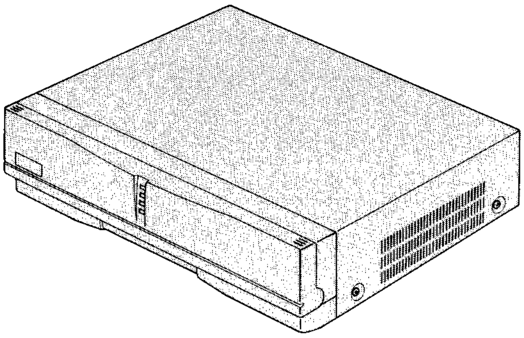
Panasonic VHS PAL

Hi-Fi HQ

NV-HD700EG

K-MECHANISM

General Description
Adjustment Procedures
Schematic Diagrams
Exploded Views / Parts List



SPECIFICATIONS

ITEM	SPECIFICATION
POWER	SOURCE: 220 ~ 240V AC 50/60Hz
	CONSUMPTION: 35 watts
RECORDING SYSTEM	2 rotary heads, helical scanning system
	PAL
TV TUNER SYSTEM	VHF I: CHN1 ~ CHS10 VHF III: CHE5 ~ CHS41 (PAL/SECAM B) UHF: CH21 ~ CH69 (PAL/SECAM G) 75Ω terminated
RF OUT SYSTEM	UHF: 36 ± 4 (PAL/SECAM G) 70^{+2}_{-3}dBμ, 75Ω terminated
VIDEO	HEADS: 4 rotary heads 1 pair for SP recording, playback and trick play (L-R heads) 1 pair for LP recording, playback and trick play (L′-R′ heads) 1 flying erase head
	INPUT: EURO AV (AV1, AV2) Connectors (21 pin) 1.0Vp-p, 75Ω unbalanced VIDEO IN (AV3) Connector (Phono type) 1.0Vp-p, 75Ω unbalanced
	OUTPUT: EURO AV (AV1, AV2) Connectors (21 pin) 1.0Vp-p, 75Ω unbalanced
AUDIO	HEAD: 1 Stationary head (Normal Audio) 2 rotary heads (Hi-Fi 2CH)
	INPUT: EURO AV (AV1, AV2) Connectors (21 pin) More than −6dBV (500mV), More than 10kΩ AUDIO IN (AV3) Connector (Phono type) More than −10dBV (316mV), More than 47kΩ MICROPHONE JACK −70dBV

ITEM	SPECIFICATION
AUDIO	OUTPUT: EURO AV (AV1, AV2) Connectors (21 pin) −6dBV (500mV), Less than 1kΩ AUDIO OUT (AV3) Connector (Phono type) −8dBV (400mV), Less than 1kΩ HEADPHONE JACK −30dBV, 8Ω
	TRACK: 1 track (Normal-mono only) 2 channels (Hi-Fi Sound-Stereo)
TAPE FORMAT	VHS Cassette tape (Tape width 12.7mm)
TAPE SPEED	SP: 23.39mm/s (PAL), 33.35mm/s (NTSC) LP: 11.695mm/s (PAL), 11.12mm/s (NTSC) Record/Playback Time: SP: 4 hours with 240min. type tape LP: 8 hours with 240min. type tape FF/REW Time: 2.5min. with 180min. type tape
DIMENSIONS	430(W) × 118(H) × 395(D) mm
WEIGHT	6.7kg
STANDARD ACCESSORIES	1 pc. DIN-RF Cable 1 pc. Infra-red Remote Controller 1 pc. Audio Cables 1 pc. AC Mains Lead 1 pc. EDIT 5 pin Cable

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

INTRODUCTION

This service manual contains technical information which will allow service personnels to understand and service this model.

Section 1 presents you with technical know how for actual servicing and general information of features and controls, enabling you to become familiar with each function.

Section 2 presents to your mechanical and electrical adjustment information as well disassembly and replacement procedures.

In the case of very common information relating to other models like mechanical adjustments, please refer to the appropriate service manual.

Section 3 schematic diagrams which give you detailed information such as waveforms, voltage data, function e.t.c. ...

Section 4 contains exploded views and parts list.

Please place orders using the parts list and not the drawing reference numbers.

If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

CONTENTS

SECTION 1 GENERAL DESCRIPTIONS 1-1

1-1. SERVICE INFORMATION 1-1
1-2. SERIAL CLOCK TRANSMISSION ERROR DISPLAY 1-9
1-3. SERVICE INFORMATION DISPLAY 1-9
1-4. TECHNICAL INFORMATION 1-15
1-5. OPERATING INSTRUCTIONS 1-24

SECTION 2 ADJUSTMENT PROCEDURES 2-1

2-1. DISASSEMBLY METHOD 2-1
2-2. MECHANICAL ADJUSTMENT PROCEDURES 2-3
2-3. DISASSEMBLY PROCEDURES OF MECHANISM 2-3
2-4. ASSEMBLY PROCEDURES OF MECHANISM 2-3
2-5. ELECTRICAL ADJUSTMENT PROCEDURES 2-6

SECTION 3 SCHEMATIC DIAGRAMS 3-1

3-1. ABBREVIATIONS 3-1
3-2. POWER SCHEMATIC DIAGRAM 3-5
3-3. POWER C.B.A. 3-8
3-4. SYSTEM CONTROL & SERVO SECTION IN MAIN SCHEMATIC DIAGRAM 3-10
3-5. AUDIO SECTION IN MAIN & SUB AUDIO PACK SCHEMATIC DIAGRAM 3-18
3-6. LUMINANCE & CHROMINANCE SECTION IN MAIN SCHEMATIC DIAGRAM 3-21
3-7. MAIN C.B.A. 3-25
3-8. CAPSTAN DRIVE PACK SCHEMATIC DIAGRAM 3-29
3-9. CAPSTAN DRIVE PACK C.B.A. 3-31
3-10. LUMINANCE & CHROMINANCE PACK SCHEMATIC DIAGRAM 3-33
3-11. LUMINANCE & CHROMINANCE PACK C.B.A. 3-37
3-12. SUB LUMINANCE & CHROMINANCE PACK SCHEMATIC DIAGRAM 3-40
3-13. SUB LUMINANCE & CHROMINANCE PACK C.B.A. 3-43
3-14. Hi-Fi AUDIO PACK SCHEMATIC DIAGRAM 3-46
3-15. Hi-Fi AUDIO PACK C.B.A. 3-49
3-16. INPUT/OUTPUT PACK SCHEMATIC DIAGRAM 3-52
3-17. INPUT/OUTPUT PACK C.B.A. 3-55
3-18. HEAD AMP SCHEMATIC DIAGRAM 3-57
3-19. HEAD AMP C.B.A. 3-59
3-20. DECODER PACK SCHEMATIC DIAGRAM 3-60
3-21. DECODER PACK C.B.A. 3-62
3-22. TIMER & VR SCHEMATIC DIAGRAM 3-64
3-23. TIMER C.B.A. & VR C.B.A. 3-69
3-24. TV DEMODULATOR PACK SCHEMATIC DIAGRAM 3-74
3-25. TV DEMODULATOR PACK C.B.A. 3-76
3-26. VPS PACK C.B.A. 3-78
3-27. VPS PACK SCHEMATIC DIAGRAM 3-79

SECTION 4 EXPLODED VIEWS & PARTS LIST 4-1

4-1. EXPLODED VIEW & MECHANICAL REPLACEMENT PARTS LIST 4-1
  1. CHASSIS PARTS SECTION (1) 4-1
  2. CHASSIS PARTS SECTION (2) 4-3
  3. CASING PARTS SECTION 4-4
  4. PACKING PARTS SECTION 4-6
  5. REMOTE CONTROLLER UNIT 4-7
4-2. ELECTRICAL REPLACEMENT PARTS LIST 4-8

SECTION 1
GENERAL DESCRIPTIONS

1-1. SERVICE INFORMATION

1-1-1. K-MECHANISM INFORMATION

A. SERVICE POSITION

When servicing the K-Mechanism, the Mechanism can easily be fixed by standing the Mechanism up in the Main Frame as shown below to check easily.

In this position, the following services are possible.

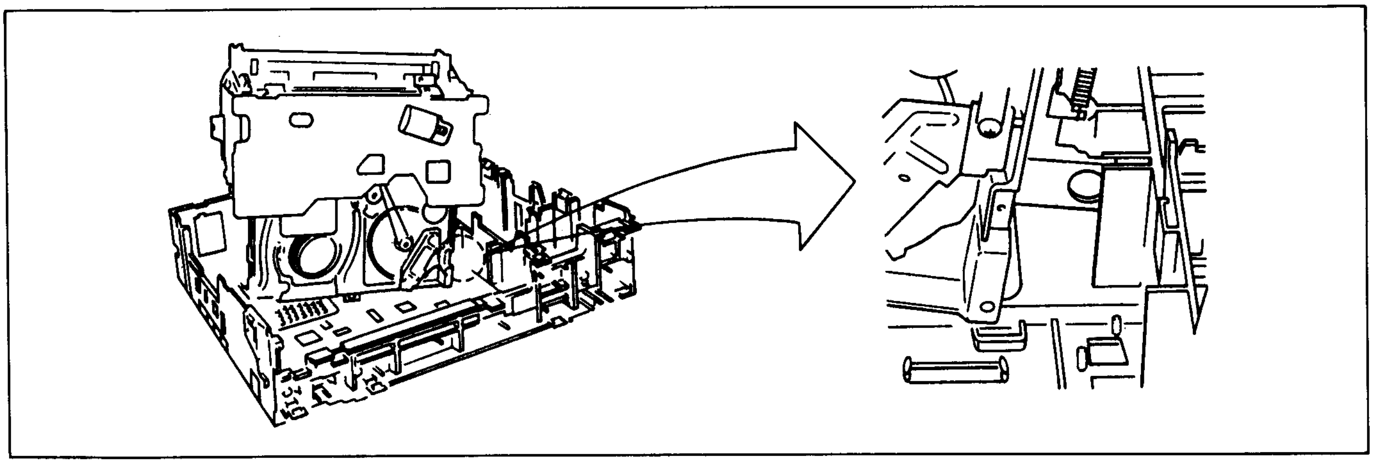
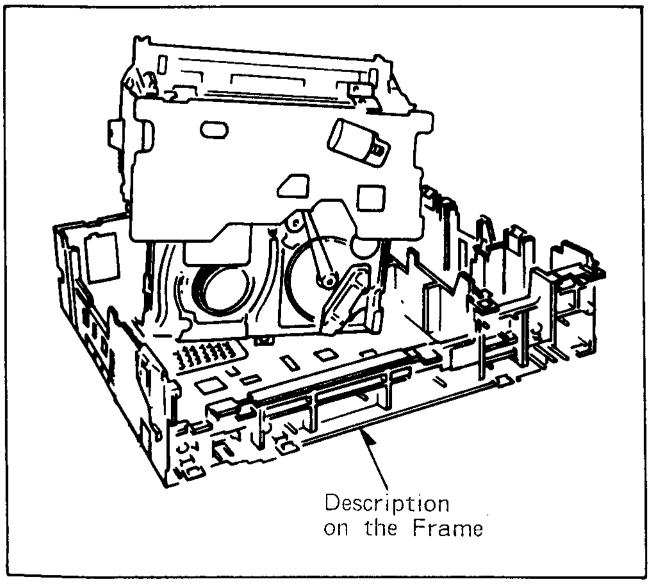


Fig. S1

A-1. CHECKING OF GEAR PHASE ALIGNMENT CONDITION

1) Remove the Mechanism Connection C.B.A.
2) Check gear phase Alignment Condition of Mechanism described on the bottom side of Frame.



Description on the Frame

Fig. S2

A-2. Checking of Loading / Unloading Operation.

There are 3 methods for manual operation of loading/unloading operation as follows.

1. HAND OPERATION
   1) Remove the Mechanism Connection C.B.A.
   2) Turn the Worm Gear or the WORM WHEEL GEAR (Remove the Loading Motor Unit) manually.

2. BATTERY OPERATION
   1) Remove the Mechanism Connection C.B.A.
   2) Connect the Battery (Manganes-Type R6 (AA) 3pcs./+4.5V) or Power Supply (+4.5V) to the Loading Motor terminals.

3. SERVICE INFORMATION DISPLAY OPERATION
   1) Set the Service Information Display mode. (Press the "EJECT" button while turning the "SHUTTLE RING" clockwise.)
   2) Turn the Shuttle Ring to FF then push the Eject button until the Service Mode Number is "7".
   3) In the above condition, The Loading Motor rotates for Loading operation by pressing the "PLAY" button. The Loading Motor rotates for unloading operation by pressing the "STOP" button.

Remark:
After checking, check the "SERVICE DISPLAY INFORMATION" mode for final confirmation of movement of Mechanism.

A–3. Checking of operation of Reel Gears.

1) Remove the Mechanism Connection C.B.A.
2) Set mechanism to "PLAY" position by manual operation of loading.
3) Turn the "Rotor Unit" to check movement of reel gears.

B. REPLACEMENT OF CYLINDER UNIT

The Cylinder Unit can be replaced easily by the following method.

1) Remove the Top Panel.
2) Remove the 3 screws of the Cylinder Unit with a magnetized screw driver through the holes on the Bottom Plate as shown in Fig.S4.

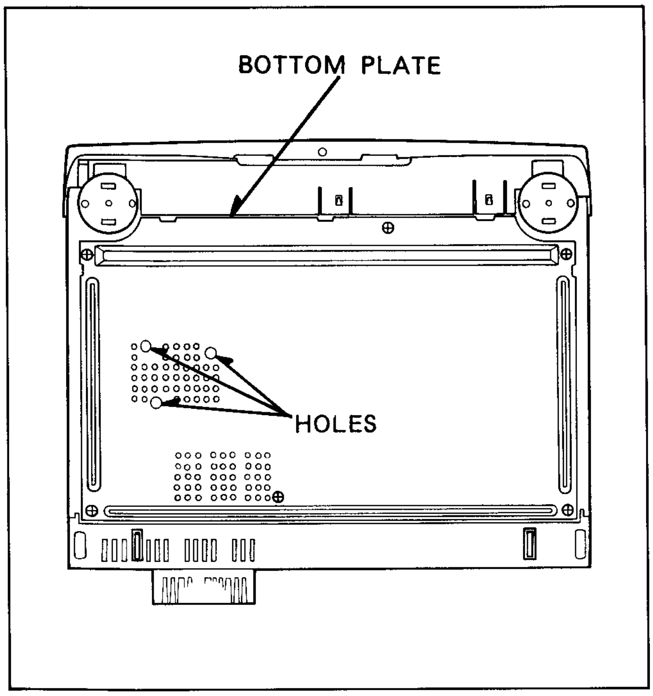

BOTTOM PLATE
HOLES

Fig. S4

C. ASSEMBLY OF CAPSTAN STATOR UNIT

When replacing the CAPSTAN STATOR UNIT, the CENTRE FIXING TOOL (VFK0851) must be used to fix the centre of CAPSTAN STATOR UNIT.

Method:
1) Place the CAPSTAN STATOR UNIT into position.
2) Loosely tighten the 3 screws.
3) Insert the CENTRE FIXING TOOL (VFK0851) as shown in Fig.S5.
4) Tighten the 3 screws.
5) Remove the CENTRE FIXING TOOL.

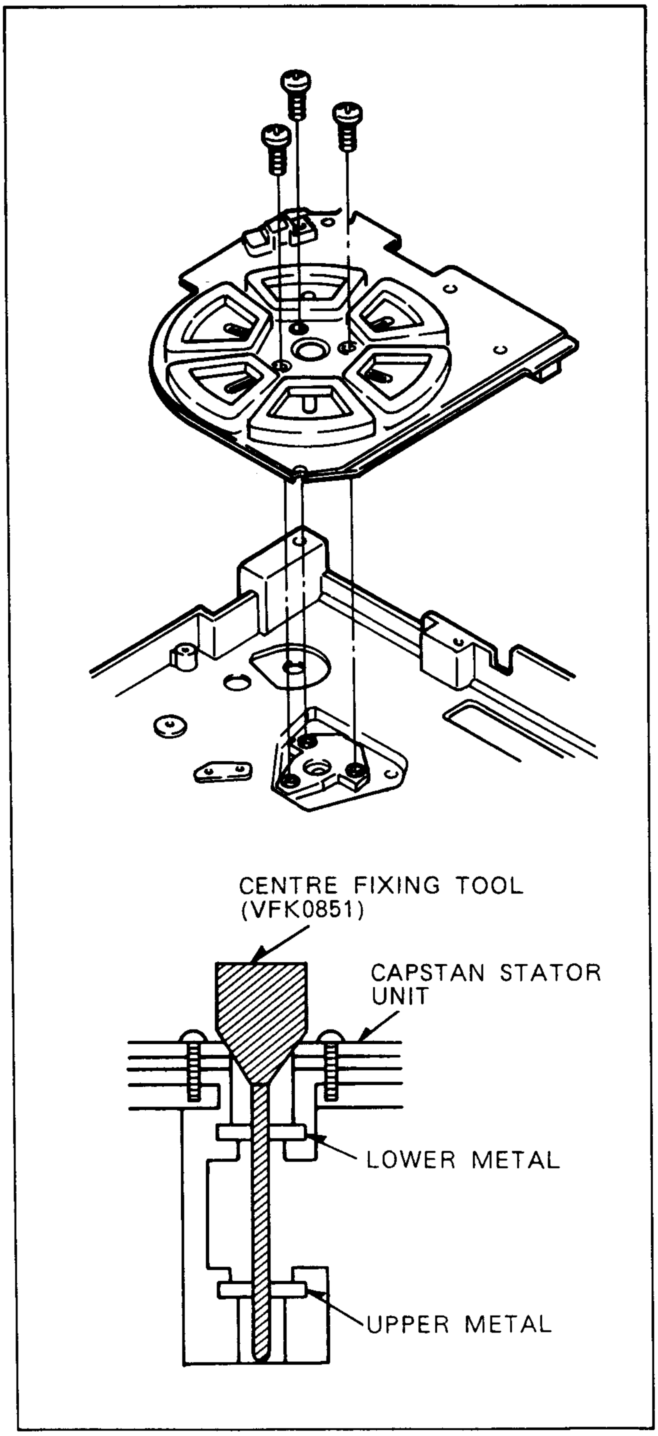

CENTRE FIXING TOOL
(VFK0851)
CAPSTAN STATOR UNIT
LOWER METAL
UPPER METAL

Fig. S5

D. EJECT OPERATION

The main cam gear rotates in the direction of the arrow. The projection (B) of the carriage connection gear engages with the recession (A) of the main cam gear. The carriage connection gear rotates in the direction of the arrow to perform the Eject operation.

<NOTE>
If the Eject operation is performed without the cassette carriage installed while repairing or making the mechanical phase alignment, the main cam gear will not engage with the carriage connection gear and will not rotate.
For performing the Eject operation with the cassette carriage not installed, it is necessary to rotate the carriage connection gear by hand in the direction of the arrow.

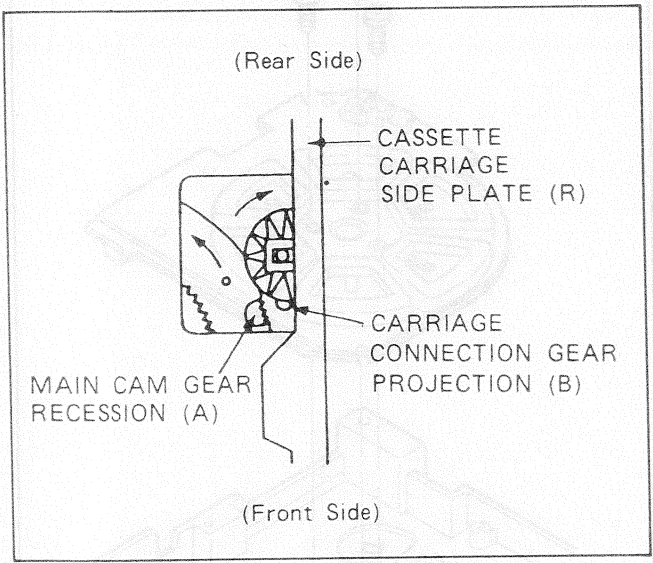

(Rear Side)
CASSETTE CARRIAGE SIDE PLATE (R)
CARRIAGE CONNECTION GEAR PROJECTION (B)
MAIN CAM GEAR RECESSION (A)
(Front Side)

Fig. S6 Top View of Eject Operation

E. TAKE-UP PHOTO SENSOR OPERATION

Note the following matters for Take-up Photo Sensor Operation.

1) While servicing of the K-Mechanism, the unit will not operate properly if a strong light (ex, Fluorescent light, Spot light) falls on the Take-up Photo Sensor.
In this case, cover the Take-up Photo Sensor to prevent the light from falling on it.
2) While servicing of the K-Mechanism with "Power On" and without cassette tape inserted, the Unit does not operate properly.

F. SERVICING OF POWER TR. C.B.A.

When removing the connector on the Power Tr. C.B.A., hold the P. C. Board by hand to prevent damage of the Power Tr.

1-1-2. REMOVAL OF THE CASSETTE TAPE.

If the electrical circuit is defective and the action of unloading and front unloading do not work properly, it is possible to remove the cassette manually. There are 2 methods of removing the cassette.

1. HAND OPERATION

1) Remove the bottom plate.
2) Turn the WORM GEAR to "A" arrow mark direction manually as shown in Fig.S7, moving the LOADING POST to the unloaded position.
3) Turn the CAPSTAN clockwise to take up the tape.
4) Turn the WORM GEAR again to eject the cassette.

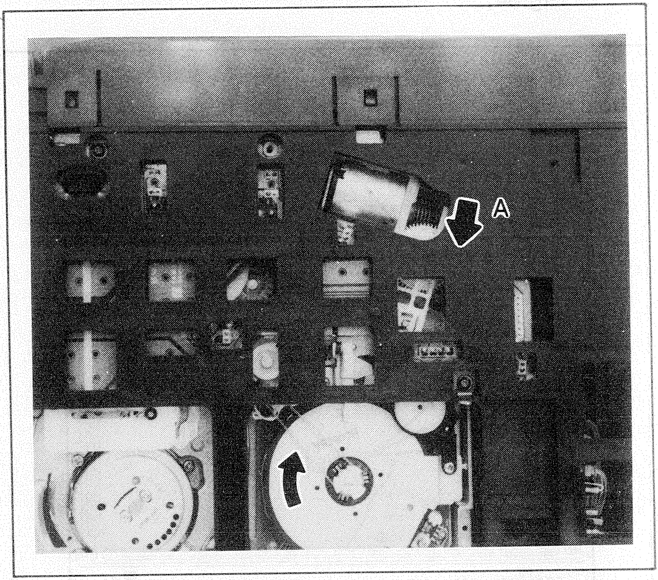


Fig. S7

2. BATTERY OPERATION

1) Connect the battery (Manganes-Type R6 (AA) 3pcs./+4.5V) to P1503 as shown in Fig. S8.
2) After moving the LOADING POST to the unloaded position, disconnect the battery to stop the motor.
3) Turn the CAPSTAN to clockwise to take up the tape.
4) Reconnect the battery to eject the cassette.

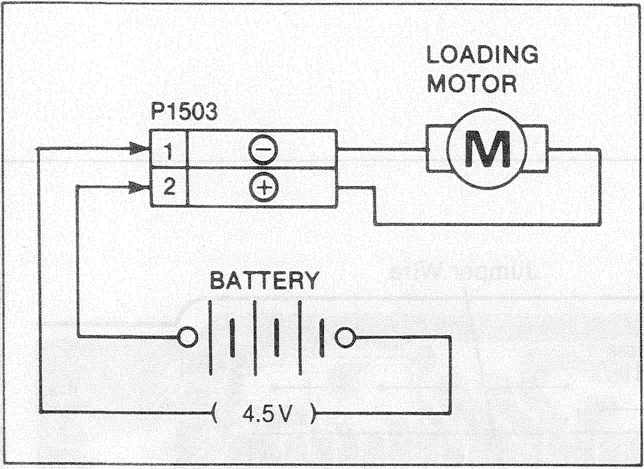

LOADING MOTOR
P1503
1
2
M
BATTERY
4.5V

Fig. S8

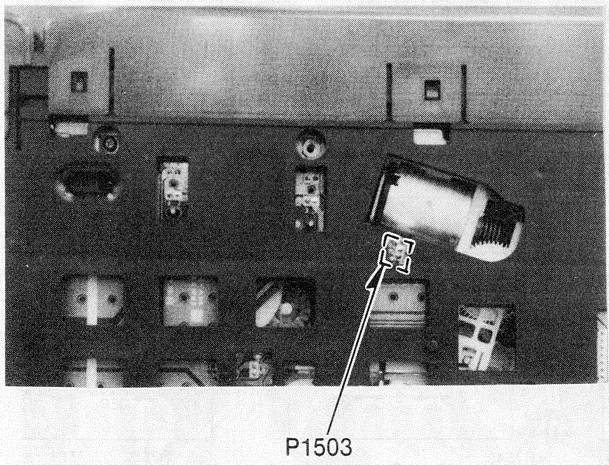


Fig. S9

1-1-3. INSTALLATION OF FLAT CARD CABLE

When installing of the Flat Card Cable to the connector, make sure the direction of the Flat Card Cable. The Insulation Sheet side is backside.

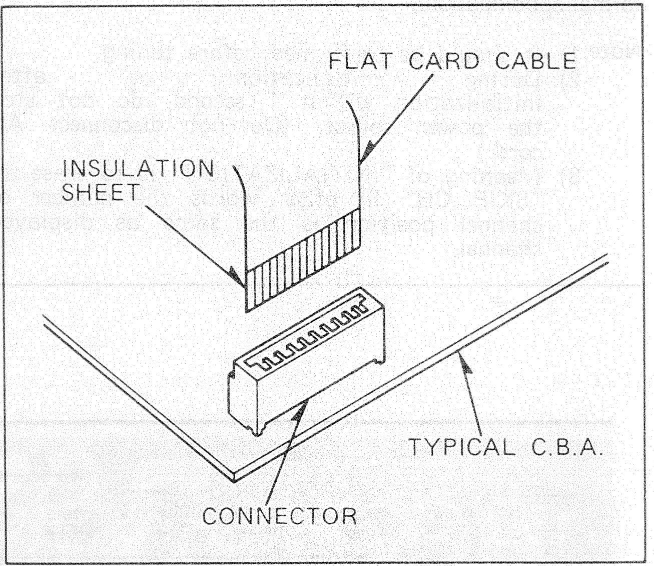

FLAT CARD CABLE
INSULATION SHEET
TYPICAL C.B.A.
CONNECTOR

Fig. S10

1-1-4. INITIALIZATION OF CHANNEL MEMORY IC (IC7501/M37502V4BJ)

When replacing the channel memory IC (IC7501/ M37502V4BJ), the memory IC should be initiali keep formal specification.)

Note:1) It should be performed before tuning.
2) During initialization or after initialization within 1 second, do not stop the power source. (Do not disconnect AC cord.)
3) Meaning of "INITIALIZATION" is to erase the "SKIP CH" In other words the number of channel position is the same as displayed channel.

Method:
1) Press the CH UP/DOWN Button so that the Channel indicator indicates "3".
2) Connect a jumper wire between Pin 53 and Pin 34 of IC7501 for more than 1 second.
3) Channel indication changes from "3" to "1".

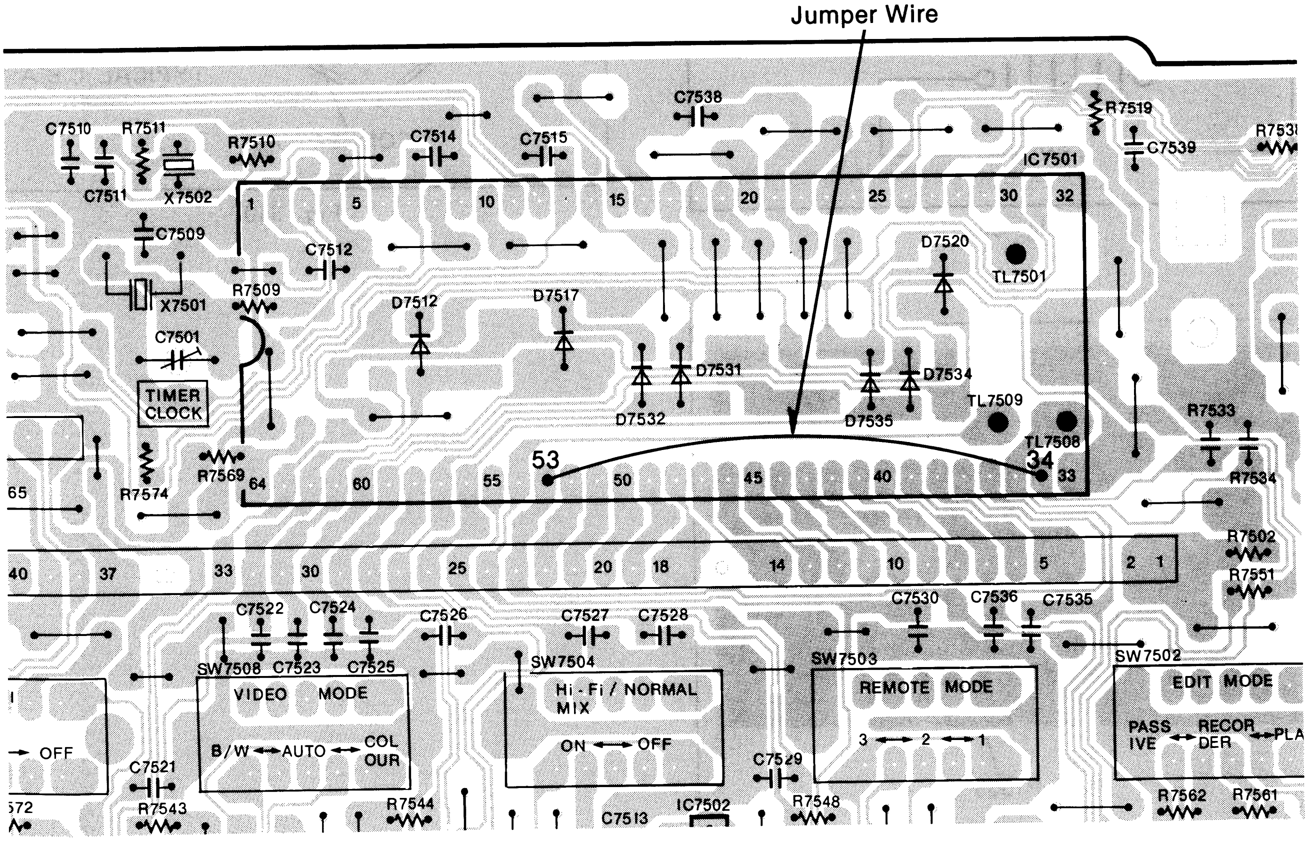

Jumper Wire
C7510
R7511
C7511
X7502
R7510
C7514
C7515
C7538
R7519
C7539
R753
IC7501
1
5
10
15
20
25
30
32
C7509
C7512
X7501
R7509
C7501
D7512
D7517
D7520
TL7501
TIMER CLOCK
D7531
D7532
D7534
D7535
TL7509
TL7508
R7533
R7574
R7569
64
60
55
53
50
45
40
34
33
R7534
65
R7502
R7551
40
37
33
30
25
20
18
14
10
5
2
1
C7522
C7524
C7526
C7527
C7528
C7530
C7536
C7535
SW7508
C7523
C7525
SW7504
SW7503
SW7502
VIDEO MODE
B/W ↔ AUTO ↔ COL OUR
Hi-Fi / NORMAL MIX
ON ↔ OFF
REMOTE MODE
3 ↔ 2 ↔ 1
EDIT MODE
PASS IVE ↔ RECOR DER ↔ PLA
OFF
C7521
R7543
R7544
C7513
IC7502
C7529
R7548
R7562
R7561

Fig. S11

1-1-5. HOW TO CHECK THE CRACKED CHIP PART

(1) Apply heat to the soldered portions of chip part using a soldering iron for about 2–3 seconds.
(2) If the chip part is faulty, it will fracture.

Caution:
Do not leave soldering iron on the PCB too long as damage may occur to the PCB or the chip parts.

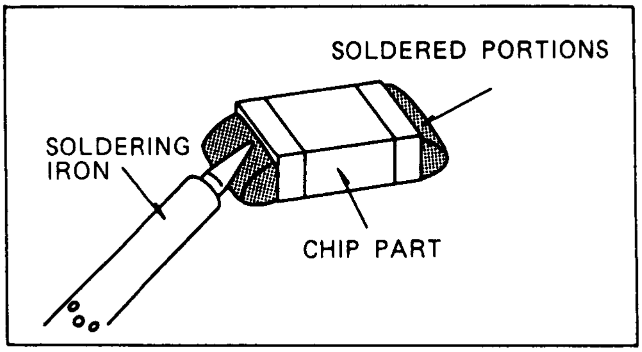

SOLDERED PORTIONS
SOLDERING IRON
CHIP PART

Fig. S12

Note:
Regarding intermittent faults.
The main causes of these faults are poor soldering and cracked chip parts.

1-1-6. HOW TO REPLACE THE CHIP PART

1)REMOVAL (RESISTOR, CAPACITOR, etc...)

(1) Presolder the one side of soldering portion for chip part and grasp the chip part by tweezers.
(2) Melt the presoldered portion. And then remove the chip part with a twisting motion while melting the soldering portion of another side quickly.

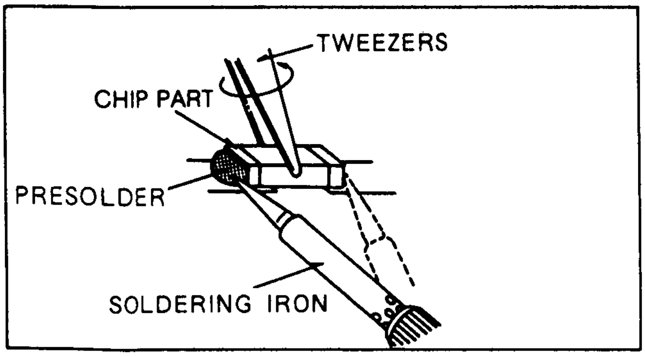

TWEEZERS
CHIP PART
PRESOLDER
SOLDERING IRON

Fig. S13

2) REMOVAL (transistor, diode, etc...)

(1) Grasp the chip part with tweezers and melt the solder of one lead.

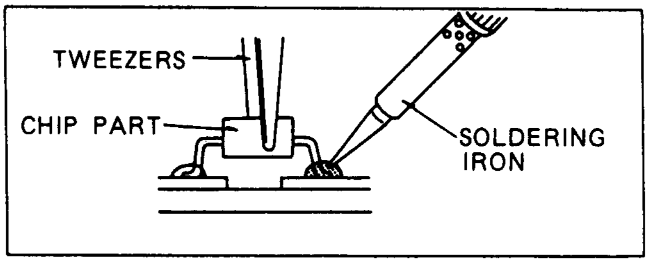

TWEEZERS
CHIP PART
SOLDERING IRON

Fig. S14

(2) Lift the side of that lead upward.

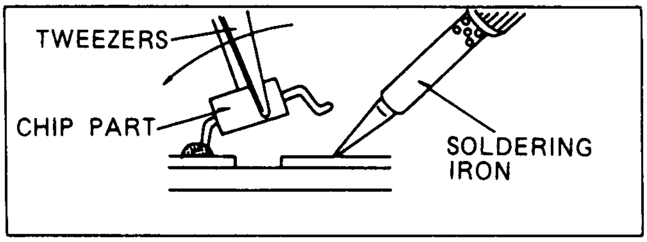

TWEEZERS
CHIP PART
SOLDERING IRON

Fig. S15

Caution:
Do not lift the chip part too high as damage may occur to the PCB or the leads that are still soldered on the PCB.

(3) Simultaneously heat the solder of the two remaining leads and lift part to remove.

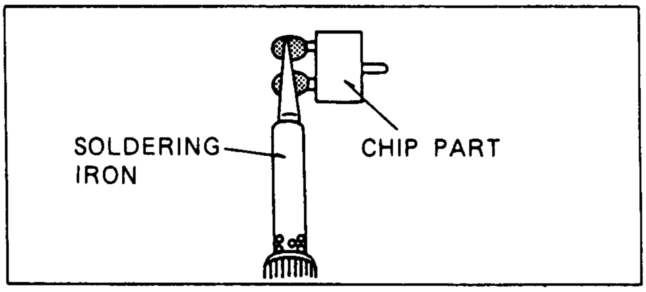

SOLDERING IRON
CHIP PART

Fig. S16

3) INSTALLATION

(1) Presolder the one side of contact point on the circuit board.

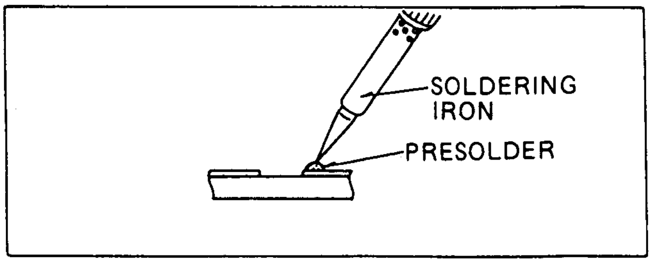

SOLDERING IRON
PRESOLDER

Fig. S17

(2) To install the chip part, hold in position using tweezers, apply heat to the pre-soldered portions using a fine tip soldering iron.
(3) Solder the other side of the chip part.
(4) Check your soldering and ensure no short circuits between pins.

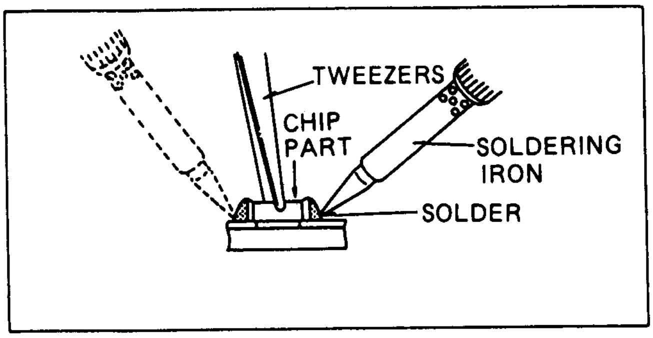

TWEEZERS
CHIP PART
SOLDERING IRON
SOLDER

Fig. S18

1-1-7. HOW TO REMOVE THE FLAT-IC

(WITH HOT-AIR FLAT-IC DESOLDERING MACHINE)

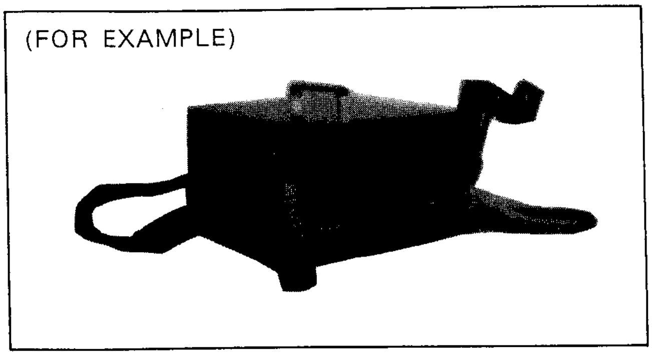

(FOR EXAMPLE)

Fig. S19

(1) Prepare the HOT-AIR FLAT-IC DESOLDERING MACHINE. And then apply hot air to FLAT-IC about 5-8 seconds.
(2) Remove the FLAT-IC with tweezers while applying the hot air.

Caution:
Do not supply the hot air to the chip parts around the Flat-IC for long time as damage may occur to the chip parts around the Flat-IC.

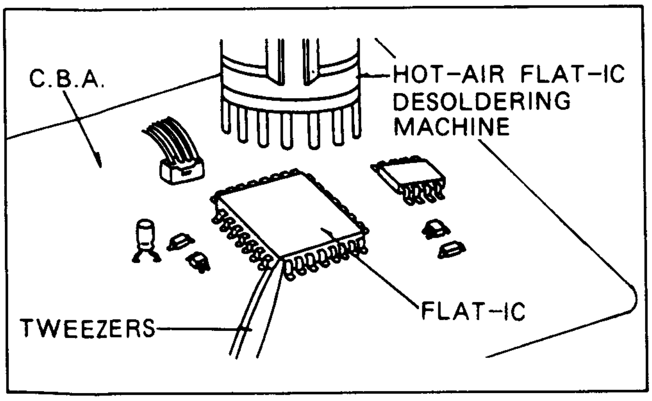

C.B.A.
HOT-AIR FLAT-IC DESOLDERING MACHINE
TWEEZERS
FLAT-IC

Fig. S20

(WITH SOLDERING IRON)

(1) Using solder braid remove the solder from all pins of the Flat-IC.
When you use the solder flux which is applied to all pins of the Flat-IC, you can remove it easily.

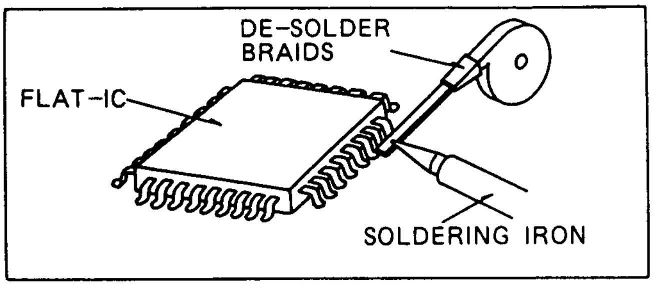

DE-SOLDER BRAIDS
FLAT-IC
SOLDERING IRON

Fig. S21

(2) Lift each lead of the Flat-IC upward one by one using a sharp pin or non solder wire(iron wire), while heating the pins using a fine tip soldering iron or a hot air blower.

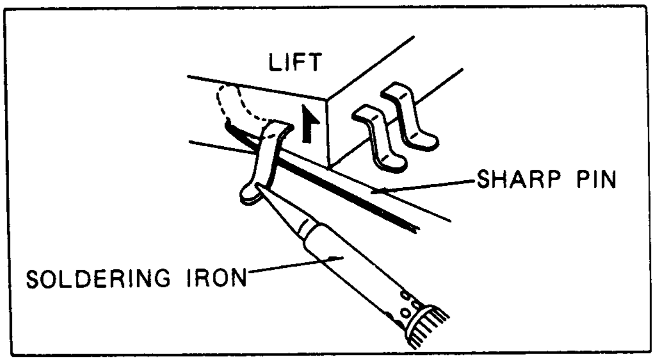

LIFT
SHARP PIN
SOLDERING IRON

Fig. S22

(WITH IRON WIRE)

(1) Affix the wire to workbench or solid mounting point as shown in Fig.S23.
(2) Pull up wire as the solder melts so as to lift the IC lead from the PCB contact pad, while heating the pins using a fine tip soldering iron or hot air blower.

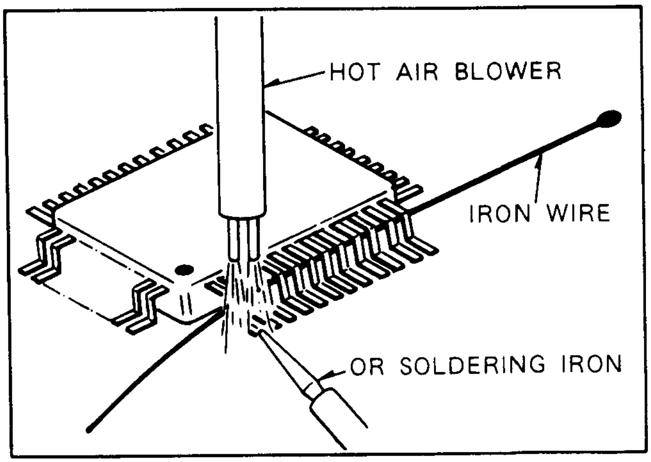

HOT AIR BLOWER
IRON WIRE
OR SOLDERING IRON

Fig. S23

Note:
When using a soldering iron care must be taken to ensure that the Flat IC is not being held by glue before it is the PCB may be damaged if force is used.

1-1-8. SERVICING THE PACK C.B.A.

When servicing the CAP drive pack C.B.A., sub audio pack C.B.A., Y/C pack C.B.A. and sub Y/C pack C.B.A., connections of extention cable are necessary as shown below.

PART NO	PART NAME	PCS	CONNECTION
VFK0678	18P EXTENTION CABLE	2	MAIN (PP3011)-SUB Y/C (PS3303) MAIN (PP3012)-SUB Y/C (PS3302)
VFK0764	10P EXTENTION CABLE	1	MAIN (PP2002)-CAP DRIVE (PS2002)
VFK0918	17P EXTENTION CABLE	1	MAIN (PP4501)-SUB AUDIO (PS4501)
VFK0937	9P EXTENTION CABLE	1	MAIN (PP3001)-Y/C (PS301)
VFK0938	12P EXTENTION CABLE	2	MAIN (PP3002)-Y/C (PS302) MAIN (PP2001)-CAP DRIVE (PS2001)
VFK0939	13P EXTENTION CABLE	1	MAIN (PP3003)-Y/C (PS303)
VFK0940	14P EXTENTION CABLE	1	MAIN (PP3013)-SUB Y/C (PS3501)

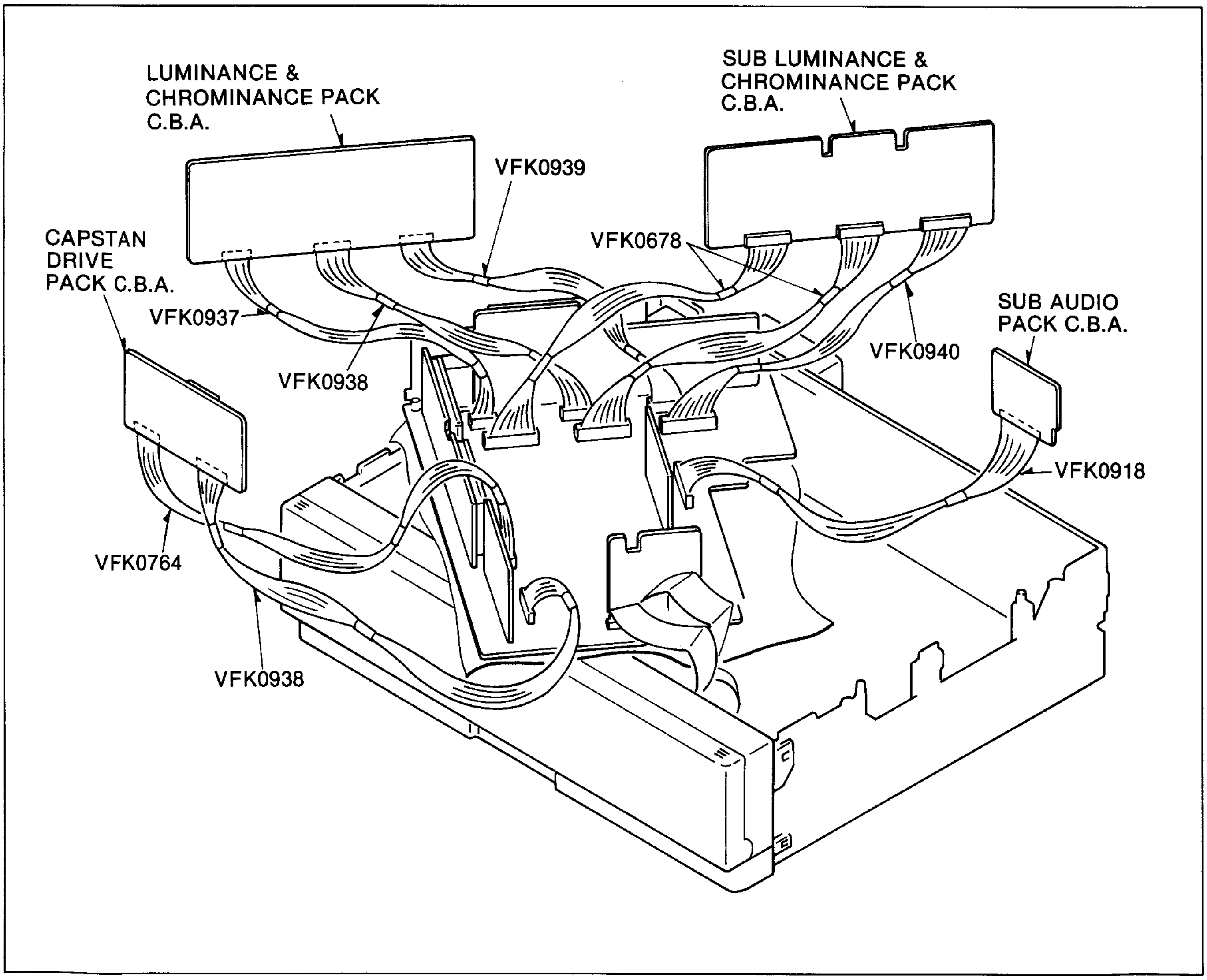

LUMINANCE & CHROMINANCE PACK C.B.A.
SUB LUMINANCE & CHROMINANCE PACK C.B.A.
VFK0939
CAPSTAN DRIVE PACK C.B.A.
VFK0678
VFK0937
VFK0938
VFK0940
SUB AUDIO PACK C.B.A.
VFK0918
VFK0764
VFK0938

Fig. S24

1-2. SERIAL CLOCK TRANSMISSION ERROR DISPLAY

If the Serial Clock is not transmitted from IC6001 to IC7501, "E9" is displayed as shown in Fig.T1. This indication will be displayed either during the Service Information Display mode or in normal mode.

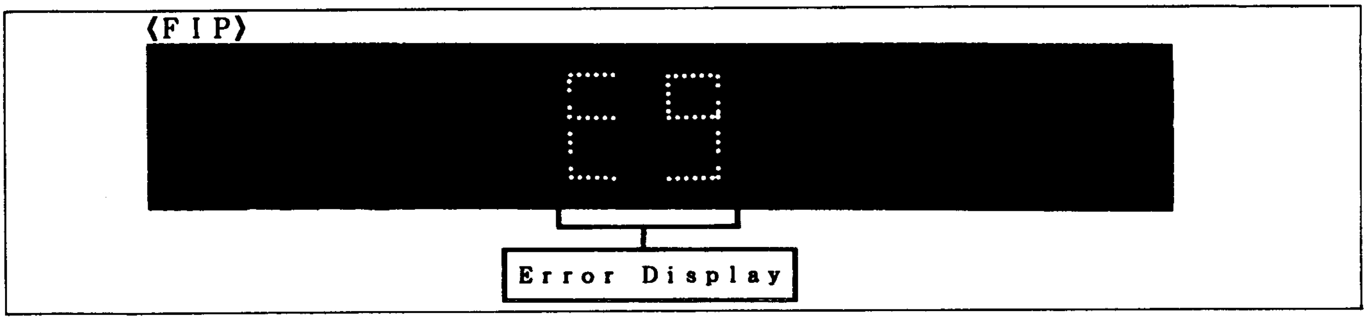

⟨F I P⟩
E9
Error Display

Fig. T1 Serial Data/Clock Transmission Error Display

1-3. SERVICE INFORMATION DISPLAY

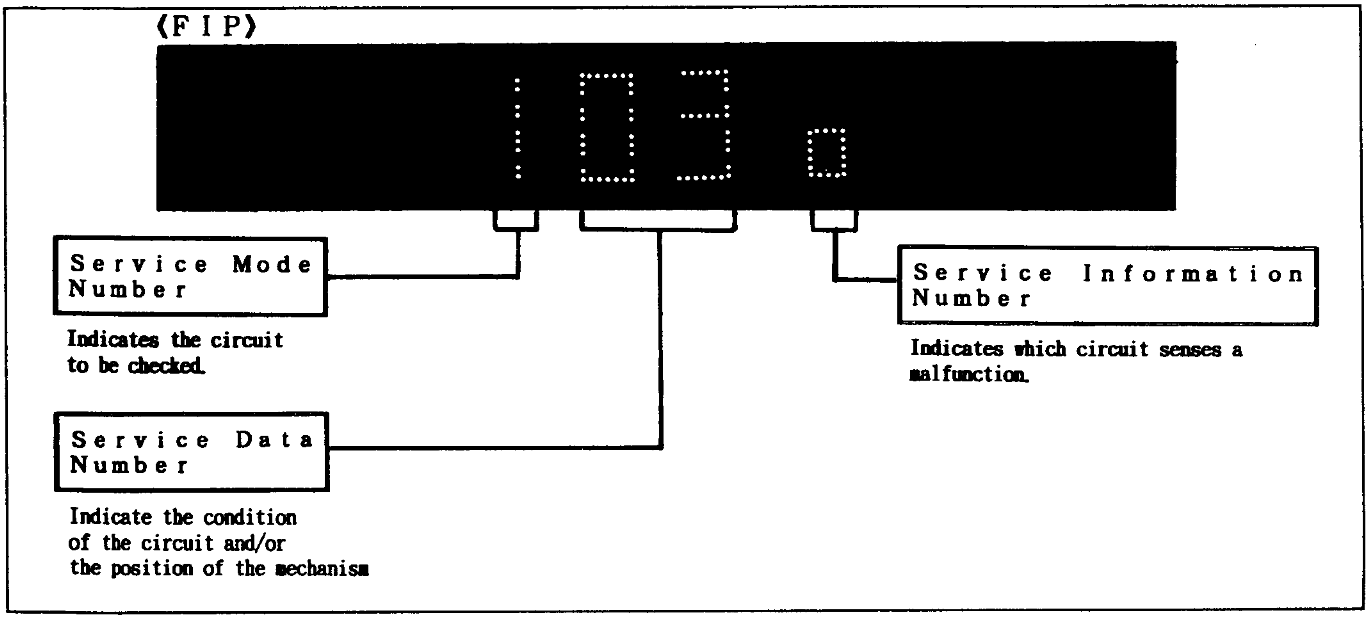

⟨F I P⟩
103 o
Service Mode Number
Indicates the circuit to be checked.
Service Data Number
Indicate the condition of the circuit and/or the position of the mechanism
Service Information Number
Indicates which circuit senses a malfunction.

Fig. D1 Service Information Display

1-3-1. Purpose of Service Information Display

This information aids trouble shooting by indicating the source of the malfunction. The service mode number & service data number are used by the technician during repair while the service information can be used by the consumer to diagnose malfunctions allowing the technician to provide a more accurate repair cost estimate and reduce repair time.

1-3-2. Turning on Service Information Display

There are two ways to turn on the Service Information Display.

(1) Turn the Shuttle Ring to FF then push the Eject button. The Service Information will be displayed for 1 minute.

(2) Connecting a jumper wire between TPSERV and TPGND For NV-SD series (TP6010 and TP6011 for NV-HD series) will display the service information indefinitely.

In the Service Information Display, there are four digits divided into 3 functions.
The first digit indicates which other 7 service modes that the unit is Currently in.

MODE 1 : Check tape protection circuit
MODE 2 : Check tape transport mechanism
MODE 3 : Check mode switching operation
MODE 4 : Check control buttons
MODE 5 : Check capstan motor
MODE 6 : Check cylinder motor
MODE 7 : Check loading/unloading operation

The second and third digits are service data which indicate the condition of the circuit or mechanism being checked.

The forth digit is the service Information display. It is to be used by the consumer to help determine the source of a malfunction. The service information display operates independently of the service modes and stores the fault indication in memory for as long as AC power is supplied.

1-3-3. Use of Service Modes

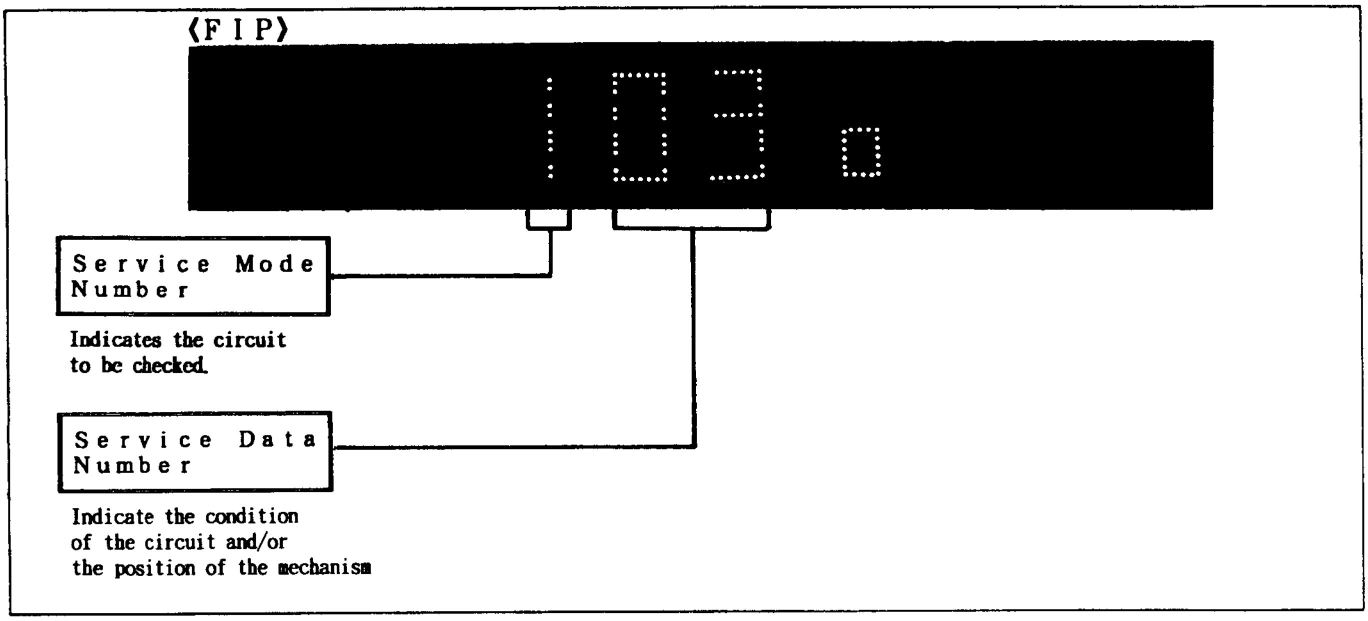
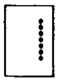

⟨F I P⟩
Service Mode Number
Indicates the circuit to be checked.
Service Data Number
Indicate the condition of the circuit and/or the position of the mechanism

Fig. D2. Service Mode Number and Service Data Number on S.I.D.

(1) Turn on Service Information Display.

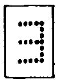
(2) To change Service Modes turn the shuttle ring to FF then push the Eject button.

(3) Mode 1 : Checks that the Sensor LED, Supply & Take-up Sensor circuits check the circuits by blocking the light from the Sensor LED to either or both Supply & Take-up Sensors.
When the light is blocked to both sensors, "00" should be indicated on the service data number.
When the light is blocked to the supply sensor, "01" should be indicated.



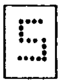
(4) Mode 2 : Checks the mode switch circuit while indicating mechanism position.
Service Data Numbers indicate the position of the mode switch and there by the mechanism position.

(5) Mode 3 : Checks that mode switch circuit operations have been completed.
Service Data Number should indicate "00" after each mechanism operation is completed.

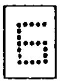


(6) Mode 4 : Checks the operation circuit.
Indicates if IC6001 receives the operating commands from the mode buttons and/or remote controller.

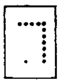
(7) Mode 5 : Checks the capstan motor circuit.
Indicates if the IC6001 has received the command to rotate the capstan motor.



(8) Mode 6 : Checks the cylinder motor circuit.
IC6001 has received the command to rotate the cylinder motor.



(9) Mode 7: Checks the Loading/Unloading Operation.
The Loading Motor rotates for loading operation when the "PLAY" button pressed.
The Loading Motor rotates For operation when the "STOP" button is pressed.



<NOTE>
Refer to Fig.D5 for details of Service Data Number.

1-3-4. Service Information Number

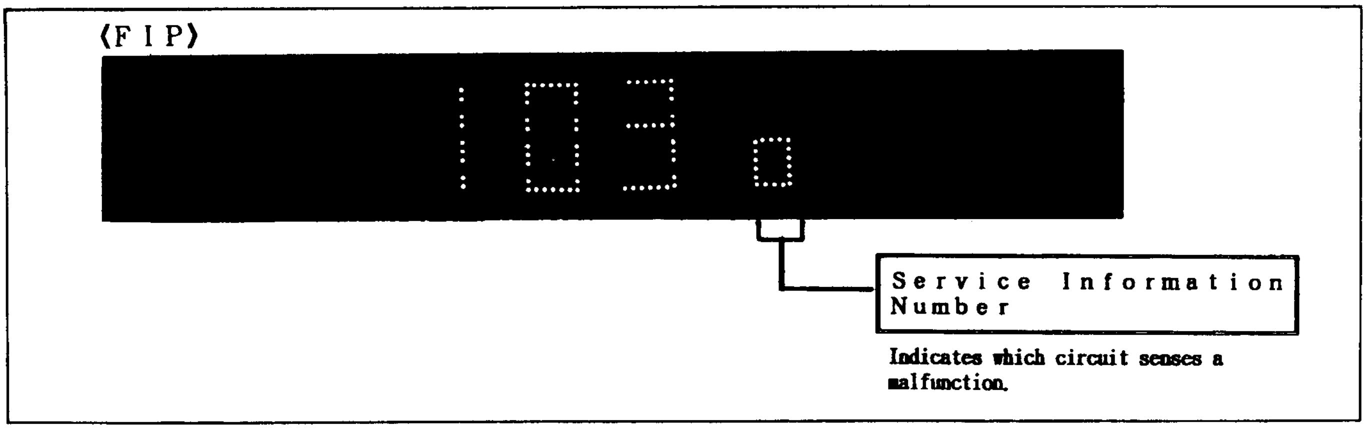

⟨F I P⟩
1 0 3 0
Service Information Number
Indicates which circuit senses a malfunction.

Fig. D3 Service Information Number on S.I.D.

Refer to Fig.D4 for details of Service Information Number.

Note:
The Service Information Number display is independent of the service mode display.
The Service Information Number will be stored as long as AC power is supplied.
If a second error occurs, the most current error will be displayed.

Service Information Number	Malfunction
0	Normal (No problem)
1	Cylinder stop
2	Tape reel stop
3	Stop at position other than 4 or 6
4	Stop during unloading
5	Falty capstan rotation
6	Stop during Cassette-In/Eject operation

Fig. D4 Service Information

Service mode Number	Note for checking Service Data Numbers	Service Data Numbers	Indication	Remarks
1		00	No light detected at either sensor	Tape not required
		01	Tape Begining. Light to Supply Photo Sensor is blocked.	
		02	Tape End. Light to Take-up Photo Sensor is blocked.	
		03	Light detected at both sensors.	
2		00	EJECT	Tape Reuired *1 : STOP3 ; The Pinch Roller is on the capstan motor shaft. *2 : STOP ; The Pinch Roller is off the capstan motor shaft. Refer to Fig. D7 to Check mechanism Position and timing.
		01	Cassette-down	
		02	REV, REV SLOW	
		03	Loading/Unloading	
		04	PLAY/REC, STILL/PAUSE, CUE, FWD SLOW, STOP3 *1	
		05	STOP*2	
		06	FF/REW	
		07	Intermediate position	
3	Disregard service data displayed until mechanism operation is completed. Then the display should indicate "00".	00	Any display other than "00" indicates a fault in the mode switch circuit or system.	Tape Required.
4	Display only when the operating button is pressed.	Refer to Fig. D6		Tape not required.
5	Left digit only, disregard Right digit display.	81 Left Digit Right Digit	8, 9, u, A, -, n, L, and no display indicate that the Capstan motor "PLAY" command recived by IC6001.	Tape required. If a symbol other than those listed is displayed, a malfunction in that circuit is indicated.
	Right digit only, disregard left digit display.	87 Left Digit Right Digit	1, 2, 3, 4, 5, 6, 7, indicate that the Capstan motor CUE, FF, Forward slow" commands received by IC6001.	
	Right digit only, disregard left digit display.	8 Left Digit Right Digit	8, 9, u, A, -, n, L, and no display indicate that the Capstan motor Reverse, Rew, Reverse Slow commands received by IC6001.	
6	Left digit only, disregard Right digit display.	10 Left Digit Right Digit	1, 3, 5, 7, 9, A, n and no display indicate that the cylinder motor "ON" command received by IC6001.	Tape required. If a symbol other than those listed is displayed, a malfunction in that circuit is indicated.

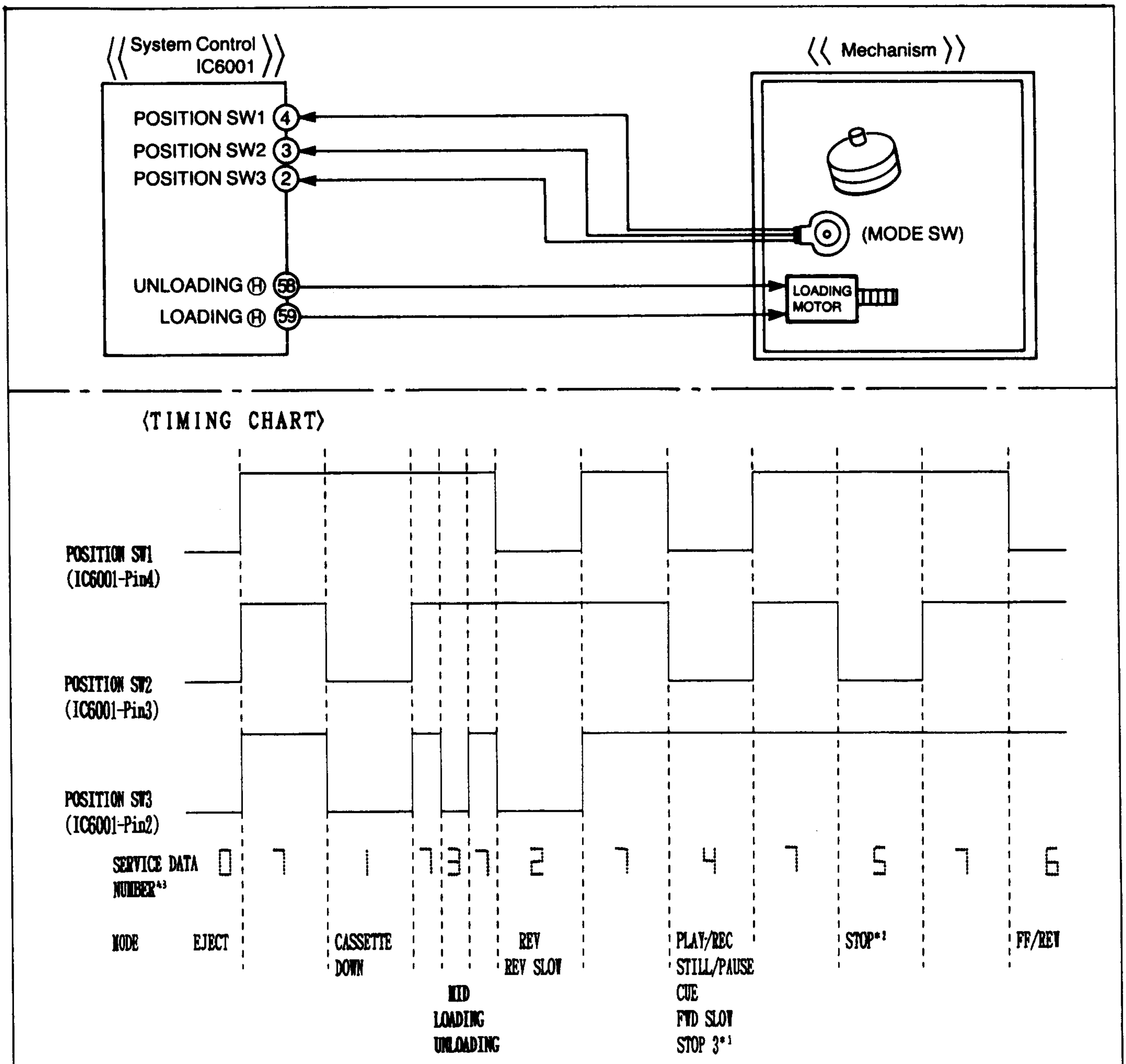
Fig. D5 Service Data Display and Indication

SERVICE DATA NUMBERS	MODE BUTTONS	SERVICE DATA NUMBERS	MODE BUTTONS
3n	OPERATE	54	RESET
01	EJECT	5	ZERO STOP
09	AUDIO DUB	-0	INPUT SELECT
A3	INSERT	49.4U	INDEX
-9	PAL/MESECAM	A1.A2	TRACKING(+,-)/V-LOCK
—	CHECK/PROG.	9	REPEAT
34 OR 35	∧∨, +−	8	SKIP
—	NEXT/SP/LP	—	TAPE SELECT
—	SLEEP/SHIFT	—	PROG.
A4	TIMER REC	—	NEXT
08	REC	—	RECORDING SP/LP
—	CLOCK SET	—	CANCEL
—	TUNER PRESET	10	SU(1)
80	PAUSE/STILL	11	MO(2)
0U	PLAY	12	TU(3)
00	STOP	13	WE(4)
0-.0n	JOG DIAL (FRAME ADV, REVERSE ADV)	14	TH(5)
03.02	SHUTTLE RING (FF, REW)	15	FR(6)
—	TV/VTR	16	SA(7)
—	SCANNER ON/OFF	17	SU~SA(8)
—	TRANSMIT	18	MO~SA(9)
0	SEARCH	19	MO~FR(0)
8L	+ (REMOTE CONTROLLER)	3A	-/--
8	- (REMOTE CONTROLLER)		
—	DISPLAY		

Fig. D6 Service Data Display for Service mode 4

1-3-5. Timing Chart from Mode SW to System control IC6001

System control IC6001 senses the mechanism position though the Mode SW.
Fig.D7 shows the timing for Service Mode Number 2.



《System Control IC6001》
POSITION SW1 ④
POSITION SW2 ③
POSITION SW3 ②
UNLOADING Ⓗ ㊳
LOADING Ⓗ ㊴
《Mechanism》
(MODE SW)
LOADING MOTOR
〈TIMING CHART〉
POSITION SW1 (IC6001-Pin4)
POSITION SW2 (IC6001-Pin3)
POSITION SW3 (IC6001-Pin2)
SERVICE DATA NUMBER*3
0 7 1 7 3 7 2 7 4 7 5 7 6
MODE
EJECT
CASSETTE DOWN
MID LOADING UNLOADING
REV REV SLOW
PLAY/REC STILL/PAUSE CUE FWD SLOW STOP 3*1
STOP*2
FF/REW

*1 :Stop 3;The Pinch Roller is on the capstan motor shaft.

*2 :Stop ;The Pinch Roller is off the capstan motor shaft.

*3 :Service Data Number;This is for Service Mode Number2.

Fig. D7 Timing Chart of Mode SW

1-4. TECHNICAL INFORMATION

1-4-1. AI(ARTIFICAL INTELLIGENCE) RECORDING FUNCTION

The recording and playback are adjusted to achieve optimum picture quality from tapes with varying charactristics.

(1)Detail explanation

<Playback mode>

The picture quality is from the different tapes as follows:

1)If the output level is low, from worn or rental cassette tapes, a soft picture is obtained by the RF equlizer and picture control on the Lumi./Chro. Pack C.B.A.

2)If the output level is medium, from normal tapes, a sharp picture is obtained from the emphasis and picture control on the Lumi./Chro. Pack C.B.A.

3)If the output level is high, from HG/S tapes, a sharp and detailed picture is obtained from the RF equlizer, emphasis picture control and noise canceller on the Lumi./Chro. Pack C.B.A.

<Recording mode>

The optimum recording level is used for all head conditions and for all types of tapes.

1)The luminance S/N is boosted 2dB.

2)Recording head wear compensation.

3)The optimum recording current is achieved in 1.5 secnds.

(2)Sigal flow

<Playback mode>

1)When the AI is turned on, the AI TRIG(H) signal is supplied to IC3303 from pin 122 of IC6001. The AI CNT(H) is supplied to the Lumi./Chro. Pack C.B.A., IC6001 and the Erase Current Generator circuit.

2)The RE C signal from the Head Amp C.B.A. is used by the IC3303 to detect the output level of the video head.

3)Afer receiving the RF C signal, the IC3303 supplies ENVE1 and ENVE2 to the Lumi./Chro. Pack as shown in Fig.A1.

4)The optimum picture is output from the video circuit.

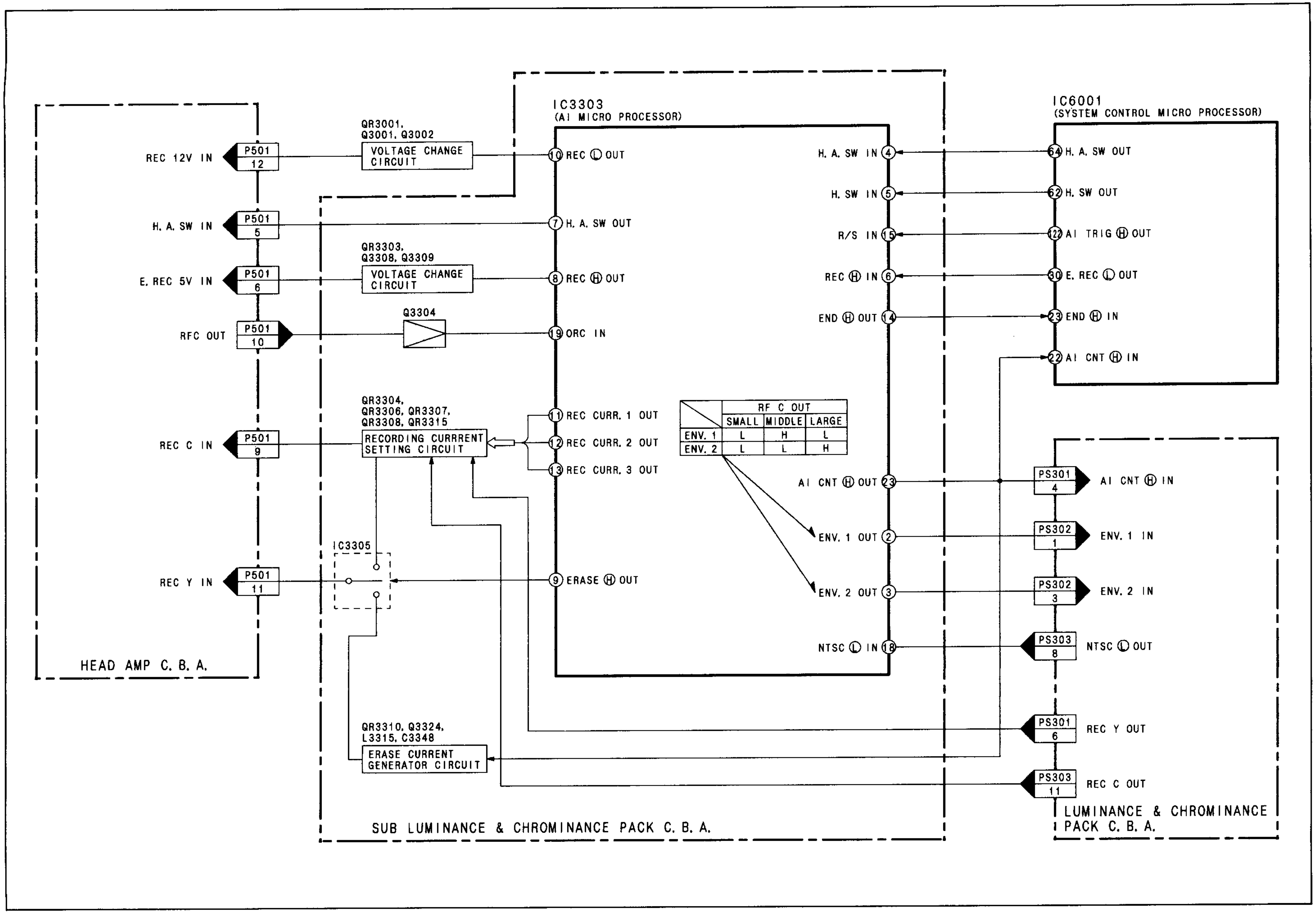
<Recording mode>

1)When the AI is turned on, the AI TRIH(H) signal is supplied to IC3303 from pin 122 of IC6001. The AI CNT(H) is supplied to the Lumi./Chro. Pack C.B.A., IC6001 and the Erase Current Generator circuit.

2)before recording, the recording and playback operations are done in the still mode to determine the optimum recording current. The signal level detection is the same as the playback mode operation. The recording current is set by the REC CUR1,2,3 signals from IC3303. IC3305 is used for erasing the tape in the still mode.

<Others>

The NTSC(L) signal is used for setting the system to NTSC or PAL.
Other command signals are used to control the performance timing.


HEAD AMP C. B. A.
REC 12V IN
P501 12
H. A. SW IN
P501 5
E. REC 5V IN
P501 6
RFC OUT
P501 10
REC C IN
P501 9
REC Y IN
P501 11
QR3001, Q3001, Q3002
VOLTAGE CHANGE CIRCUIT
QR3303, Q3308, Q3309
VOLTAGE CHANGE CIRCUIT
Q3304
QR3304, QR3306, QR3307, QR3308, QR3315
RECORDING CURRRENT SETTING CIRCUIT
IC3305
QR3310, Q3324, L3315, C3348
ERASE CURRENT GENERATOR CIRCUIT
SUB LUMINANCE & CHROMINANCE PACK C. B. A.
IC3303
(AI MICRO PROCESSOR)
10 REC Ⓛ OUT
7 H. A. SW OUT
8 REC Ⓗ OUT
19 ORC IN
11 REC CURR. 1 OUT
12 REC CURR. 2 OUT
13 REC CURR. 3 OUT
9 ERASE Ⓗ OUT
H. A. SW IN 4
H. SW IN 5
R/S IN 15
REC Ⓗ IN 6
END Ⓗ OUT 14
AI CNT Ⓗ OUT 23
ENV. 1 OUT 2
ENV. 2 OUT 3
NTSC Ⓛ IN 18
IC6001
(SYSTEM CONTROL MICRO PROCESSOR)
64 H. A. SW OUT
62 H. SW OUT
12 AI TRIG Ⓗ OUT
30 E. REC Ⓛ OUT
23 END Ⓗ IN
22 AI CNT Ⓗ IN
PS301 4
AI CNT Ⓗ IN
PS302 1
ENV. 1 IN
PS302 3
ENV. 2 IN
PS303 8
NTSC Ⓛ OUT
PS301 6
REC Y OUT
PS303 11
REC C OUT
LUMINANCE & CHROMINANCE PACK C. B. A.

	RF C OUT		
	SMALL	MIDDLE	LARGE
ENV. 1	L	H	L
ENV. 2	L	L	H

Fig. A1 Simplified AI Function Block Diagram

1-4-2. EDIT CONTROLLER FUNCTION

This VCR is equipped with programme editing.
If connected via edit cable to another VCR or a movie camera, it is possible to control such functions as tape playback and editing.

(1)Connecting this VCR with another identical one.

1)Connect the two VCRs with 5-Pin edit cable.
2)Connect the AV1 socket on the playback VCR to the AV2 socket on the recording VCR.
3)Connect the AV1 socket on the recording VCR to the TV.
4)Select A2 by pressing "Λ"V" or INPUT SELECT on the recording VCR.
5)Set EDIT MODE to Passive on the playback VCR, and to RECORDER on the recording VCR.
6)Control is performed by the recording VCR.

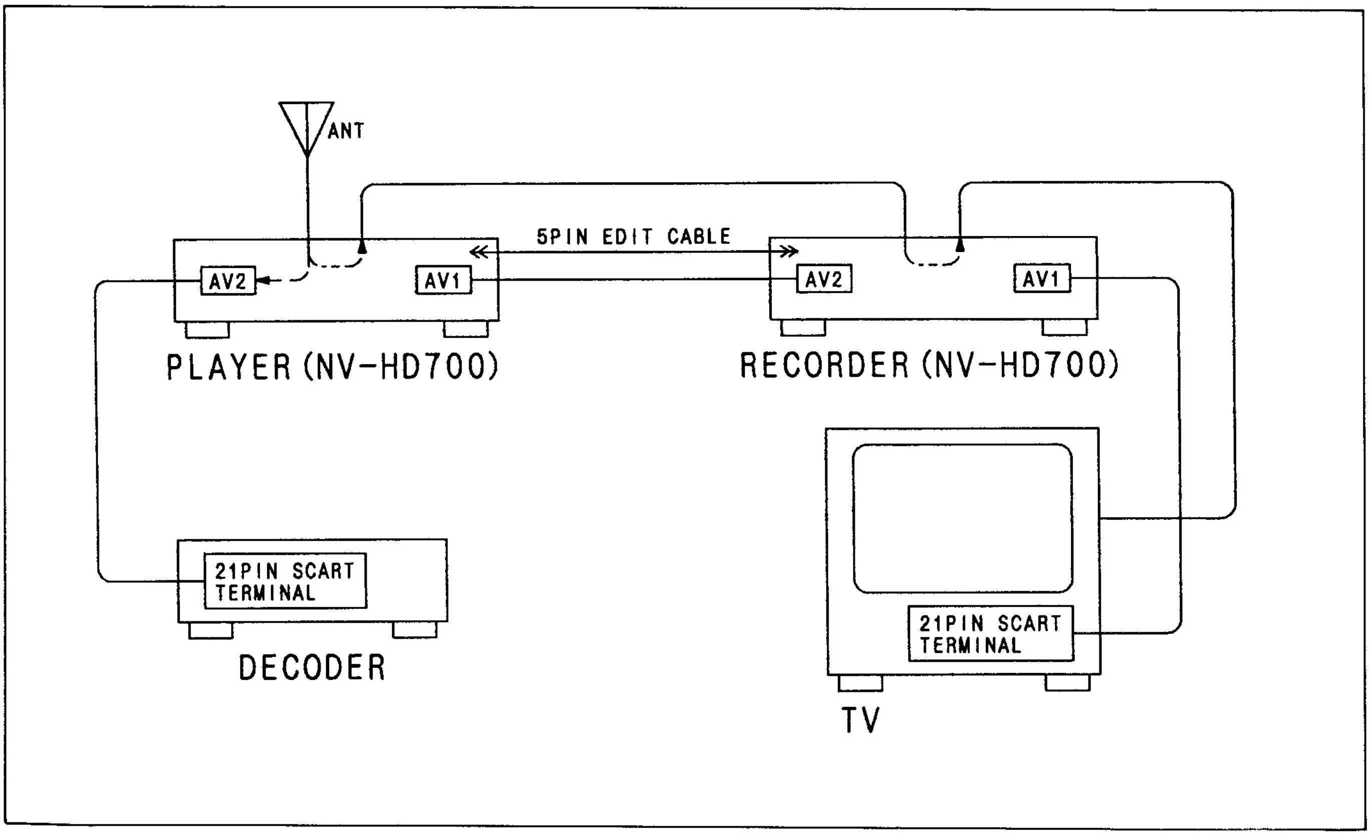

ANT
5PIN EDIT CABLE
AV2
AV1
AV2
AV1
PLAYER (NV-HD700)
RECORDER (NV-HD700)
21PIN SCART TERMINAL
DECODER
21PIN SCART TERMINAL
TV

Fig. A2 Connection of Editing Controller Function

(2)Signal Flow

Fig. A3 below describes Video/Audio signal flow.

The control commands go from Recorder to Player through 5-Pin Edit Cable.

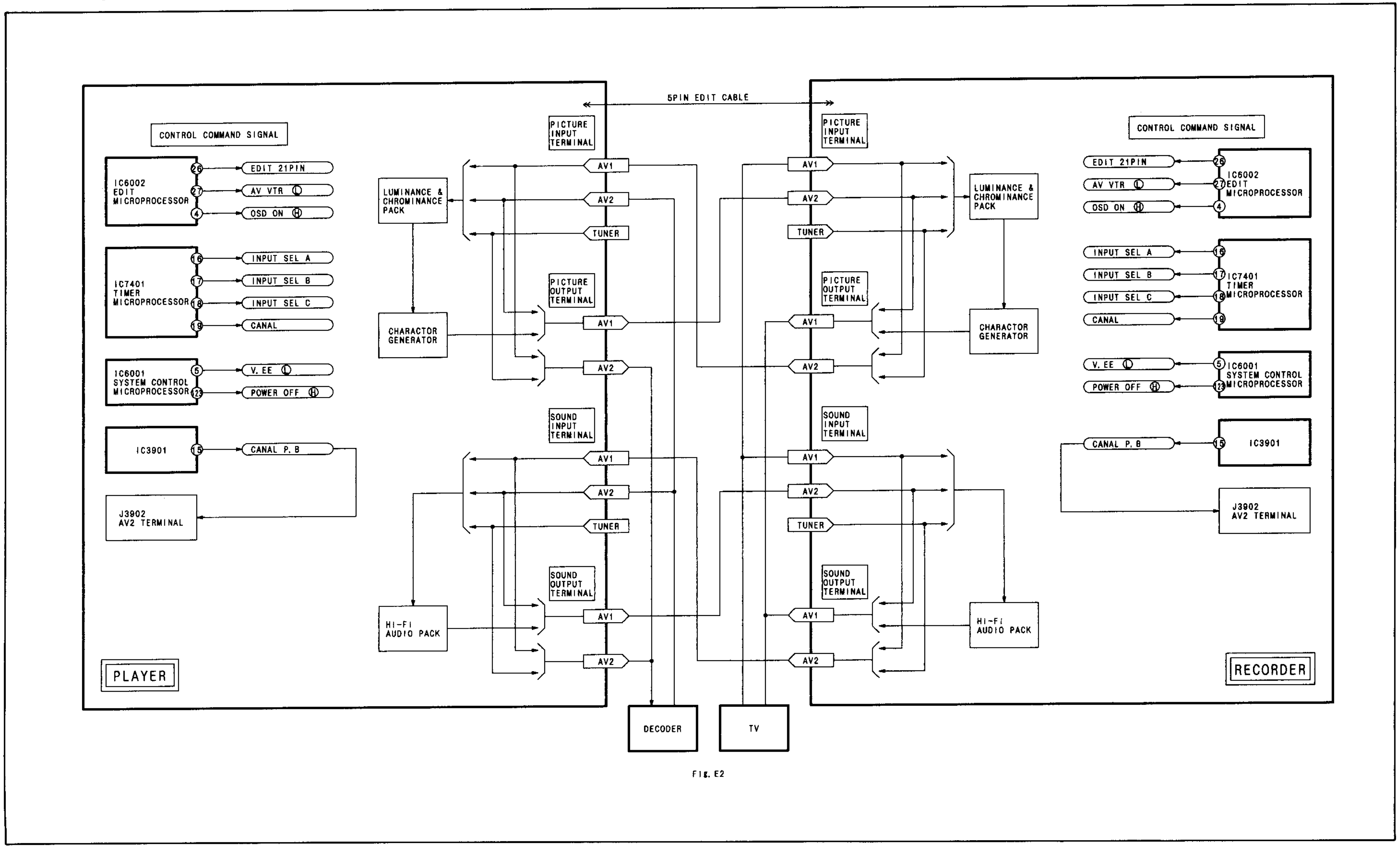

5PIN EDIT CABLE
PLAYER
CONTROL COMMAND SIGNAL
IC6002 EDIT MICROPROCESSOR
26
27
4
EDIT 21PIN
AV VTR Ⓛ
OSD ON Ⓗ
IC7401 TIMER MICROPROCESSOR
16
17
18
19
INPUT SEL A
INPUT SEL B
INPUT SEL C
CANAL
IC6001 SYSTEM CONTROL MICROPROCESSOR
5
123
V. EE Ⓛ
POWER OFF Ⓗ
IC3901
15
CANAL P. B
J3902 AV2 TERMINAL
LUMINANCE & CHROMINANCE PACK
CHARACTOR GENERATOR
HI-FI AUDIO PACK
PICTURE INPUT TERMINAL
PICTURE OUTPUT TERMINAL
SOUND INPUT TERMINAL
SOUND OUTPUT TERMINAL
AV1
AV2
TUNER
DECODER
TV
RECORDER
Fig. E2

Fig. A3 Signal Flow

(3)Input/Output Chart for Edit IC6002(M38024V1AZ)

Pin Number	Input/Output	Port Name	Function
1	0	OSD CLK	Chractor Generator Control Clock
2	0	OSD DATA	Chractor Generator Control Data
3	0	OSD CS	Chractor Gen. CTL Chip Select(L)
4	0	OSD ON (H)	Editing OSD ON (H)
5,6	-	----------	Not used
7	I	L CLK CNT	Serial Clock Counter Terminal
8	-	----------	Not used
9	I	SYS CLK	System Control Serial Clock
10	0	SYS OUT	System Control Serial Data
11	I	SYS IN	System Control Serial Data
12	0	DATA IN (H)	5P Clock Data Output Inhibit(H)
13	I	CLK INPUT	Timer /5P/Serial Clock
14	0	DATA OUT	5P/Serial Data
15	I	DATA IN	5P/Serial Data
16,17	-	----------	Not used
18	-	GND	GND
19	I	RESET(L)	Reset by Low signal
20	I	L CLK	Serial Data timing detection
21	I	5P CLK	5P Clock Detection
22	I	OSC IN	7.37MHz OSC
23	0	OSC OUT	7.37MHz OSC
24	-	GND	GND
25	0	JOG LED(H)	JOG/SHUTTLE Mode ON (H)
26	0	EDIT21P	AV2 Terminal Output (H) in the Editing OSD mode

27	O	AVVTR(L)	AV2 Terminal Output (H) in the Editing OSD mode
28 ~ 31	-	----------	Not used
32	O	EDIT(H)	Picture Edit mode (H)
33	I	TEST SIGNAL (H)	Tuner Preset Display ON (H)
34	I	OSD SECAM(H)	OSD ON(H) by SECAM System
35	O	INSIDE(H)	Internal OSD ON(H)
36	I	SERCH MUTE OK(H)	Sound Serch Mute(H)
37	I	VITC OK(H)	VITC ON(H)
38	I	LANGUAGE2	<OSD Langage Setting> 000 = English , 001 = German 010 = French , 011 = Italian 100 = Spanish , 101 = Dutch 110 = Swedish
39	I	LANGUAGE1	
40	I	LANGUAGE0	
41 ~ 46	-	----------	Not used
47	O	BUS SELECT (B)	Timer/5P/Serial Bus Selection
48	O	BUS SELECT (A)	Timer/5P/Serial Bus Selection
49	I	CHECK(L)	Factory mode (L)
50 ~ 56	-	----------	Not used
57 ~ 58	I	VDD	5 V
59	-	GND	GND
60	I	EE DATA IN	Data from IC6007(EEPROM)
61	O	EE DATA OUT	Data to IC6007(EEPROM)
62	O	EE CLK	Clock to IC6007(EEPROM)
63	O	EE CS	Chip Select to IC6007(EEPROM)
64	I	REC/P1/P2	Recorder(H)/Player1(M)/Player2(L)

1-4-3. NEW SERIAL DATA TRANSMISSION

1. Serial data transmission
To exchange the data among the microprocessors, the serial data transmission is used.
Serial data transmission is used because of the relatively large amount of information that can be sent in a signal data line.
Actually two lines are required in this system , an in / out data line and a clock line.
The data in / out line between each microprocessor is timeshared.

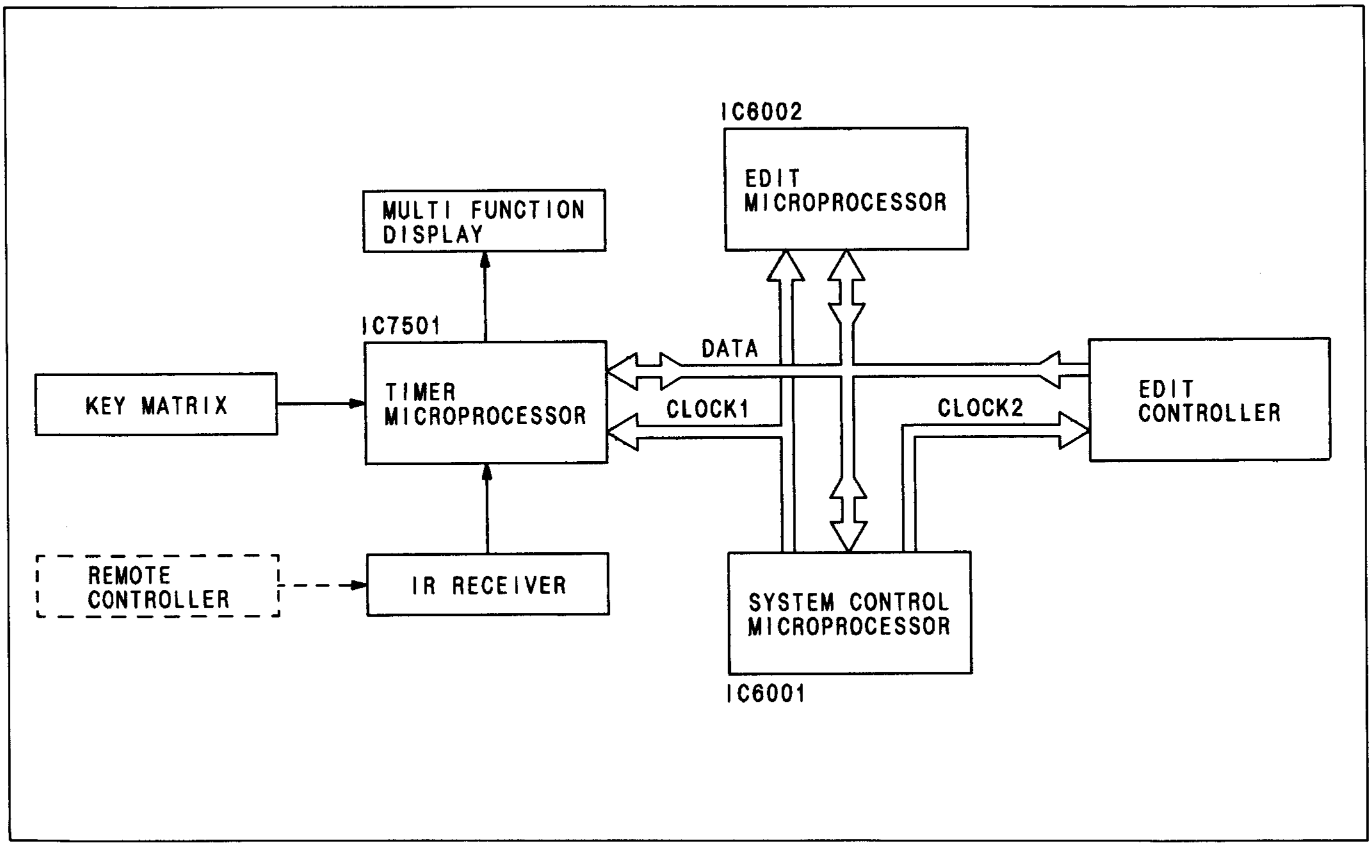

IC6002
EDIT MICROPROCESSOR
MULTI FUNCTION DISPLAY
IC7501
DATA
KEY MATRIX
TIMER MICROPROCESSOR
CLOCK1
CLOCK2
EDIT CONTROLLER
REMOTE CONTROLLER
IR RECEIVER
SYSTEM CONTROL MICROPROCESSOR
IC6001

Fig. A4

2. Serial clock line and data line

This serial clock signal is a reference signal which is used to control the timing of the data transmission among the microprocessors.

The previous transmission has only 13 clocknumber, the new serial data transmission has 20 clock number in it.

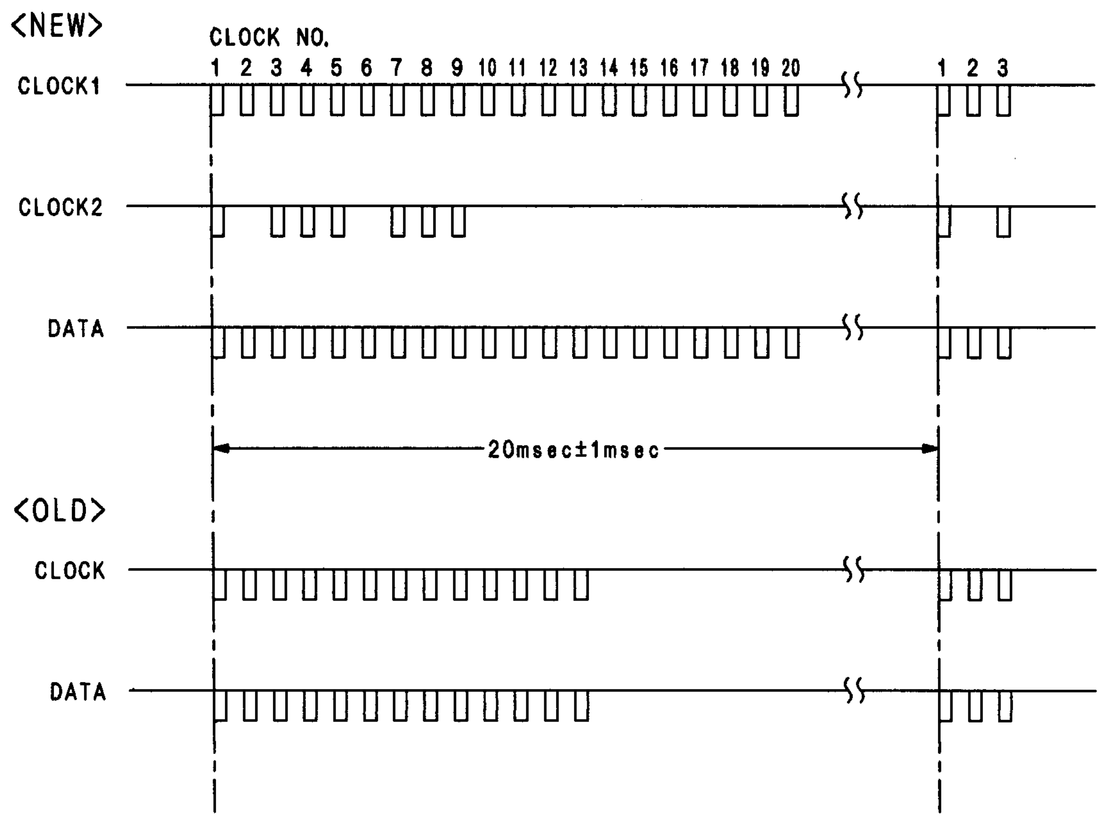
Blocks 1 to 10 of both formats will be the same.

Now the clock number from 1 to 13 is same.

The contents of new data is as shown below.

Clock1 is used for transmission of the data among the system control microprosessor, timer microprossesor and edit microprosessor.

And clock2 which is composed of the clock no. 1, 3, 4, 5, 7, 8, 9 works to transmit the data between thesystem control microprocessor and the edit controller.



<NEW>
CLOCK NO.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
1 2 3
CLOCK1
CLOCK2
DATA
20msec±1msec
<OLD>
CLOCK
DATA

Fig. A5

CLOCK NO	TRANSMISSION	CONTENTS OF DATA	CLOCK NO	TRANSMISSION	CONTENTS OF DATA
1	IC7501←IC6001	TAPE SPEED M/R/S etc	11	IC7501←IC6001	SERCH MODE CONDITION CODE
2	IC6001←IC7501	WIRELESS REMOTE AND KEY CONTROL CODE	12	IC7501←IC6001	FRAME NUMBER CODE
3	IC6001←IC7501	TIMER INSTRUCTIONS CODE	13	NOT USED	――――
4	IC6001←EDIT CONTROLLER	EDIT CONTROLLER INSTRUCTIONS CODE	14	IC6001←IC7501	JOG/SHUTTLE CODE
5	IC7501←IC6001	TRANSMISSION OF DECK CODE	15	IC6001←IC7501	AI SWITCH CONDITION
6	IC7501←IC6001	DISPLAY INDICATION CODE(POWER ON/OFF etc)	16	IC6001←IC7501	AUDIO CONDITION CODE
7	IC7501←IC6001	COUNTER/TAPE REMAINING CODE	17	IC7501←IC6001	PLAY BACK AUDIO CONDITION CODE
8	IC7501←IC6001	COUNTER/TAPE REMAINING CODE	18	IC6002←IC6001	VITC CODE
9	IC7501←IC6001	COUNTER/TAPE REMAINING CODE	19	IC6001←IC6002	EDIT MICROPROCESSOR INSTRUCTION CODE
10	IC6001←IC7501	TIMER CONDITION CODE	20	NOT USED	――――

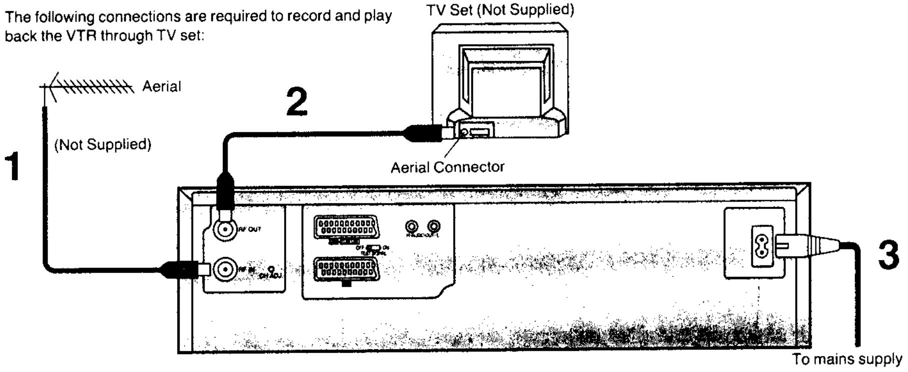
Fig. A6

Connections

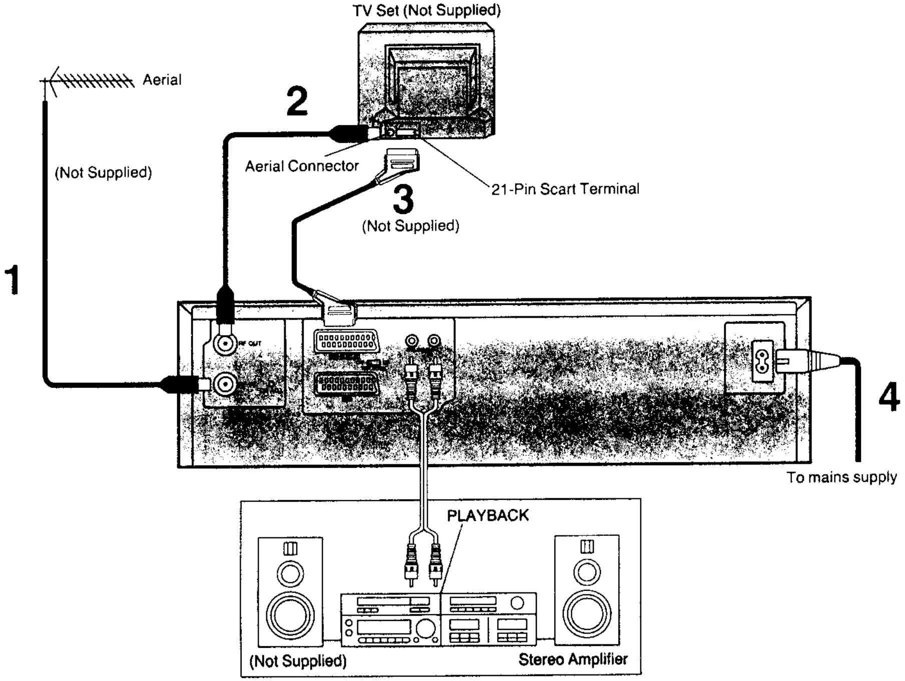
This tells you how to connect with an aerial, TV, etc.

Basic Connections

The following connections are required to record and play back the VTR through TV set:

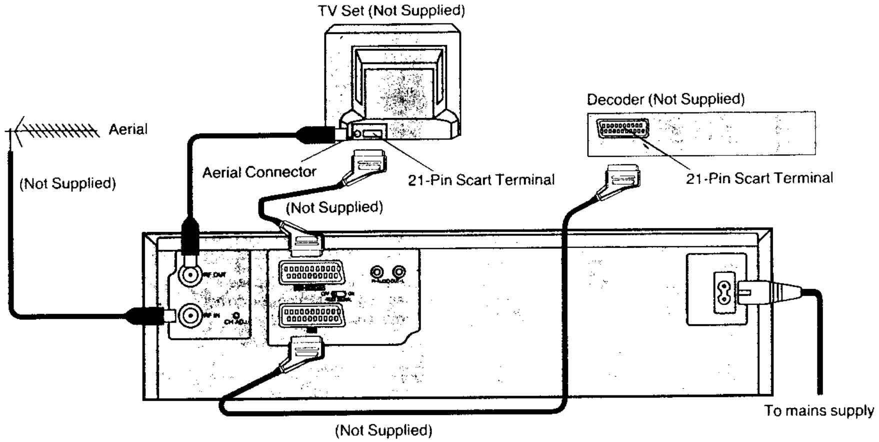

TV Set (Not Supplied)
Aerial
1
(Not Supplied)
2
Aerial Connector
3
To mains supply

Connection to a TV Set with 21-Pin Scart Terminal


TV Set (Not Supplied)
Aerial
2
1
(Not Supplied)
Aerial Connector
3
21-Pin Scart Terminal
(Not Supplied)
4
To mains supply
PLAYBACK
(Not Supplied)
Stereo Amplifier

•Connection to a Stereo Amplifier

Connection to a Decoder


TV Set (Not Supplied)
Decoder (Not Supplied)
Aerial
(Not Supplied)
Aerial Connector
21-Pin Scart Terminal
21-Pin Scart Terminal
(Not Supplied)
To mains supply
(Not Supplied)

Note:
If the TV set is provided with an RGB-compatible connector, connect the 21-pin AV cable from the VTR to this connector. Use full-pin 21-pin AV cables for connecting the TV set and VTR and for connecting the VTR and decoder.

AV LINK

With this button the connected colour TV set can be switched from TV mode to VTR mode (vice versa) when it is connected by means of 21-pin scart cable.

This makes a variety of functions possible, such as simultaneous recording and viewing when a "Premiere" decoder or a satellite receiver has been connected.

VTR mode (VTR indicator lights):
To enjoy sound and pictures from the VTR.

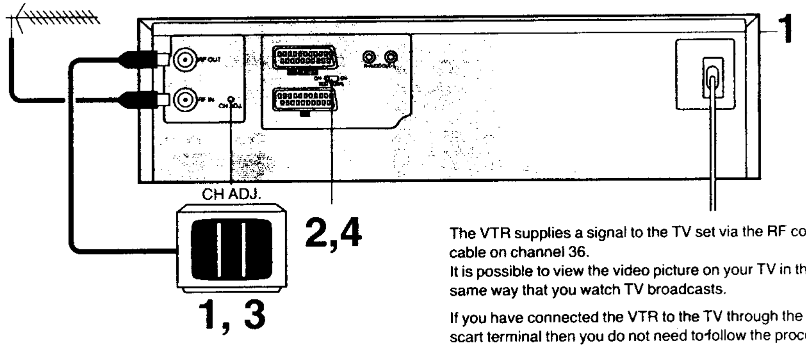
TV mode (VTR indicator goes off):
To watch another programme on the TV while recording on the VTR.

- Select the programme to be watched using the TV set's tuner.
- The sound and pictures of a different channel are received by the VTR.

VTR		TV set
Power On	VTR mode	AV input selected
	TV mode	Input from TV set's tuner*
Power Off	—	Input from TV set's tuner

*When the VTR is set to the TV mode and the Pay TV channel is selected, the signals will still be scrambled even when Pay TV is selected by the TV set's tuner. At a time like this, either set the VTR to the VTR mode or switch the TV set's input signals to AV input.

Tuning the TV to your VTR


1
CH ADJ.
2,4
1, 3

The VTR supplies a signal to the TV set via the RF coaxial cable on channel 36.
It is possible to view the video picture on your TV in the same way that you watch TV broadcasts.

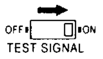
If you have connected the VTR to the TV through the 21-pin scart terminal then you do not need to follow the procedure mentioned below.

Operations

1

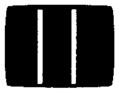
Turn on the TV and VTR.

2


OFF
ON
TEST SIGNAL

To generate a test pattern, set **TEST SIGNAL** to ON.

3



Set the TV to an unused position which you wish to use for your video playback.

4

OFF
ON
TEST SIGNAL

Set **TEST SIGNAL** to OFF.

Note:
The test signal is transmitted on video channel 36. If you are encountering interference from a TV broadcast on this video channel, you may readjust to another free channel (32~40) by using the **CH ADJ.** screw which is located on the rear of the VTR.
Please note that if the **CH ADJ.** screw is used then you will have to retune your TV to the test signal as in item **2** to **4** above.

Setting the Clock of the VTR

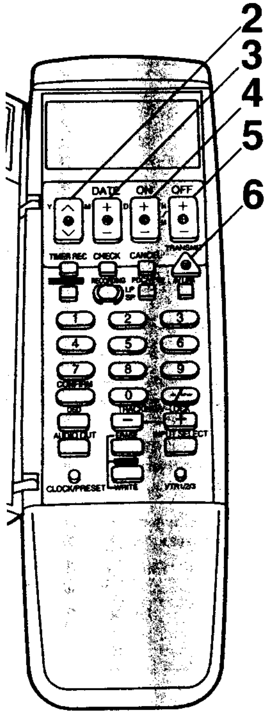
By setting the time on the remote controller's clock and then by transmitting this setting to the VTR, the clocks on both the remote controller and VTR display the same time.
The built-in digital clock employs the 24-hour system.

Preparation

- Turn on the VTR.
- Install the batteries in the remote controller.

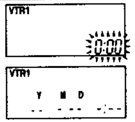
For Example:

Date; 16th, October, 1999
Time; 20:15


2
3
4
5
6
DATE
ON
OFF

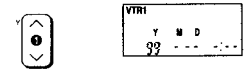
Operations / Display Symbols

1


VTR1
0:00
VTR1
Y M D

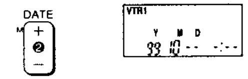
Open the door of the remote controller.

2



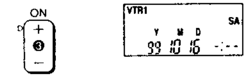
Set **Year** "99".

3


DATE
VTR1
Y M D
99 10

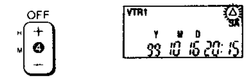
Set **Month** "10".

4


ON
VTR1
SA
Y M D
99 10 16

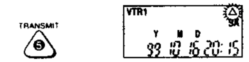
Set **Date** "16".

5


OFF
VTR1
SA
Y M D
99 10 16 20:15

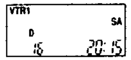
Set **Time** "20:15".
- When it is kept pressed, the indication changes in 30-minute steps.

6


TRANSMIT
VTR1
SA
Y M D
99 10 16 20:15

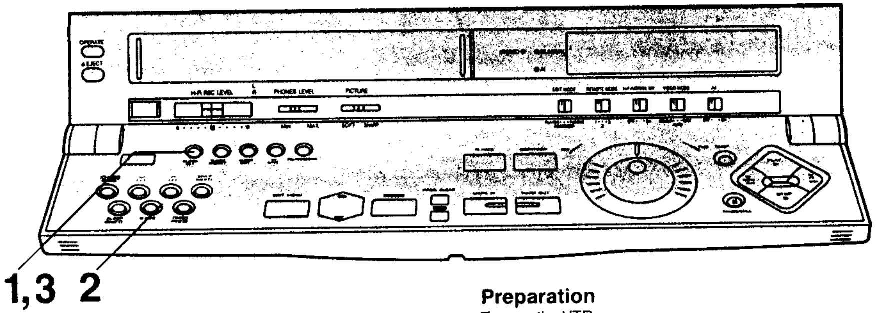
Press **TRANSMIT**.

7


VTR1
SA
D
16 20:15

Close the door of the remote controller.

Note:
To change the previous clock setting, press **CLOCK/ PRESET** for at least 2 seconds. The previous clock setting will be displayed. Then follow steps **2** to **7** above.



The built-in clock is used to activate the timer for automatic recording and must be set to the correct time.

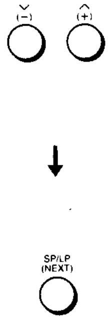
The built-in digital clock employs the 24-hour system.

Preparation

Turn on the VTR.

For Example:

Date; 16th, October, 1999
Time; 20:15

Operations	Display Symbols	
1		Keep **CLOCK SET** pressed for more than 2 seconds.
2 Set each item by pressing ∧ (+) or ∨ (−) and **SP/LP (NEXT)**.		
		Set **Year** "99".
		Set **Month** "10".
		Set **Date** "16".
		Set **Hour** "20".
		Set **Minute** "15". • There is no need to press **SP/LP (NEXT)**.
3		Press **CLOCK SET**. • The clock will start.

Note:
The clock operates for at least 60 minutes by its backup system in the event of power failure.

Time Reset Function

If the clock is less than two minutes slow or fast, it can easily be reset to the proper time.

For example:
Resetting the clock to 12:00.00

1. Press **CLOCK SET** at any time between 11:58.00 and 12:01.59 for more than 2 seconds.
2. Press **CLOCK SET** again as soon as you hear the 12:00.00 time signal.

Summer Time Function

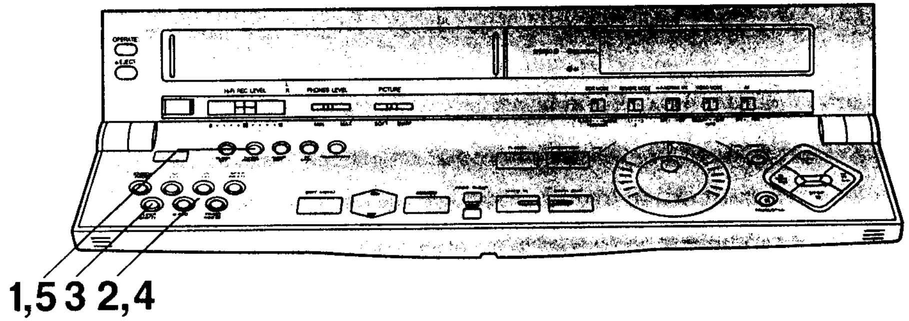
Setting to summer time

1. Keep **CLOCK SET** pressed for more than 2 seconds.
2. Press **SLEEP (SHIFT)**.
   - The time on the clock is advanced by 1 hour.
3. Press **CLOCK SET**.

Returning from summer time to standard time

1. Keep **CLOCK SET** pressed for more than 2 seconds.
2. Press **SLEEP (SHIFT)** twice.
   - The time on the clock is set back by 1 hour.
3. Press **CLOCK SET**.

Storing TV Broadcasts into your VTR



Introduction

The VTR is fitted with its own tuner (just like a normal TV set) and can be pre-set to receive up to 99 TV broadcast stations.

Preparation

- Confirm that the TV is on and the VTR viewing channel is selected.
- Turn on the VTR and Select the programme position except A1, A2 and A3.

Operations **Display Symbols**

1

TUNER PRESET

Keep **TUNER PRESET** pressed for more than 2 seconds.

2

Select the programme position, then press **SP/LP (NEXT)**.

3

SLEEP (SHIFT)

Select DBS on or off.
- 1 (DBS off): To preset normal TV stations.
- 2 (DBS on): To preset DBS stations such as Pay TV (Premiere).

4

Search for the required TV station.
- Press **PAL/MESECAM** to select SECAM system so that MESECAM indicator is lit.
- Press **SP/LP (NEXT)** and repeat steps **2–4** for each programme position you want to tune to a station.

5

TUNER PRESET

Press **TUNER PRESET** twice.

Fine Tuning Procedure

1 Keep **TUNER PRESET** pressed for more than 2 seconds, and then press again.

2 Press **SP/LP (NEXT)**.

3 Press ∧ (+) or ∨ (−) to obtain the best tuning condition.
- "AFC" Indicator disappears.
- To return the tuning to its former state, press **SLEEP (SHIFT)**.

4 Press **TUNER PRESET**.

Blanking of Unoccupied Programme Positions

1 Keep **TUNER PRESET** pressed for more than 2 seconds.

2 Select a programme position which you do not want to tune to a TV station, by using ∧ (+) or ∨ (−).

3 Press **SLEEP (SHIFT)**. ("−−" is displayed.)
- Repeat steps **2** and **3** for another unoccupied programme positions to skip during the selection of the programme positions.
- To cancel the blanking of a programme position, select that programme position on the VTR and then press **SLEEP (SHIFT)**.

4 Press **TUNER PRESET** twice.

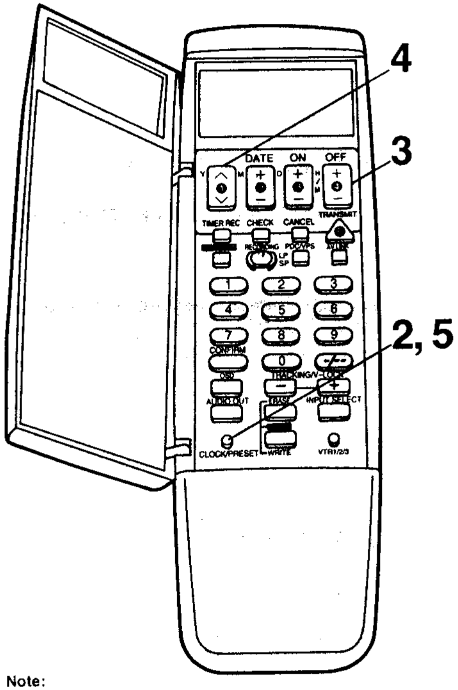
Channel Plan

Channel Indication	TV Channel	
	Germany/Italy	**Other Countries**
2–12	*E2–E12	E2–E12
13–20	A–H (Only Italy)	——
21–69	21–69	21–69
74–76	——	S1–S3
80–82	——	M1–M3
83–89	S4–S10	M4–M10
90–99	S11–S20	U1–U10
121–141	S21–S41 (Only Italy)	S21–S41

*In Italy: H1...(11), H2...(12)

Setting Up the Remote Controller for the ShowView Programming

This remote controller uses specially designated numbers called "guide numbers" to differentiate between the TV stations. Before programming using the ShowView numbers, you must enter the guide numbers of the TV stations to be viewed and the programme positions at which those TV stations are received on the VTR into the remote controller. Have a newspaper or magazine at hand which lists the TV station guide numbers and ShowView numbers.



Note:
To receive satellite stations, the satellite receiver must be connected to the VTR and programme position must be set depending on the type of the connection made.

A1: When the satellite receiver is connected to the AV1 socket

A2: When the satellite receiver is connected to the AV2 socket

A3: When the satellite receiver is connected to the Audio/Video input sockets (AV3)

- When the satellite receiver is connected by means of the RF coaxial cable, set to a free programme position between 1 and 99.

Preparation

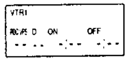
Set the clock of the remote controller first.

For Example:

TV Station	Guide Number	Programme Position
ARD	001	1
ZDF	002	2
RTL	004	4
SAT1	005	3

Operations **Display Symbols**

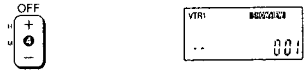
1 Open the door of the remote controller.



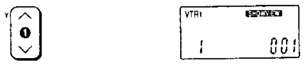
2 Keep **CLOCK/PRESET** pressed for more than 2 seconds and then press it again.

CLOCK/PRESET
VTR1
-- 001

3 Select the guide number (001–255).



4 Select the programme position (1–99, A1–A3).



- To set the other TV stations, repeat steps 3 and 4.

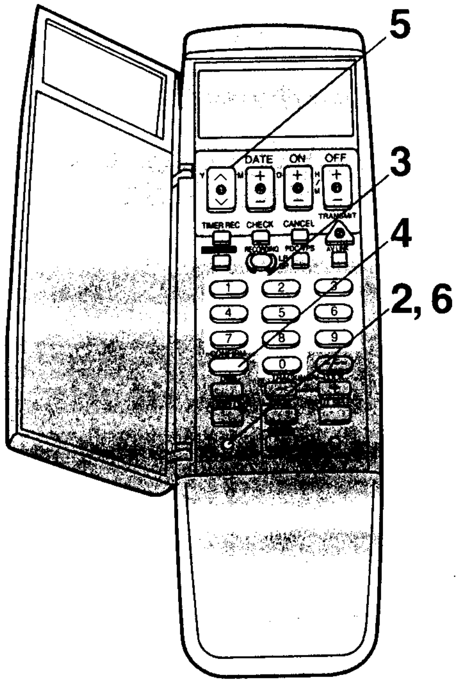
5 Press **CLOCK/PRESET**.

CLOCK/PRESET
VTR1

6 Close the door of the remote controller.

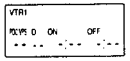
If you do not know the Guide Number of a TV Station

You can set it by figuring it out from the ShowView number for the programme broadcast by that station.



Operations **Display Symbols**

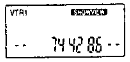
1 Open the door of the remote controller.



2 Keep **CLOCK/PRESET** pressed for more than 2 seconds and then press it again.

CLOCK/PRESET
VTR1
-- 001

3 Enter a ShowView number.
Example: 744286

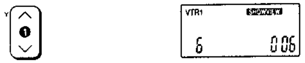


- If you have entered the wrong number, press **CANCEL** and then enter the proper number.

4 Press **CONFIRM** to set the guide number.

CONFIRM
VTR1
-- 005

5 Select the programme position (1–99, A1–A3).



- To set the other TV stations, repeat steps 3 to 5.

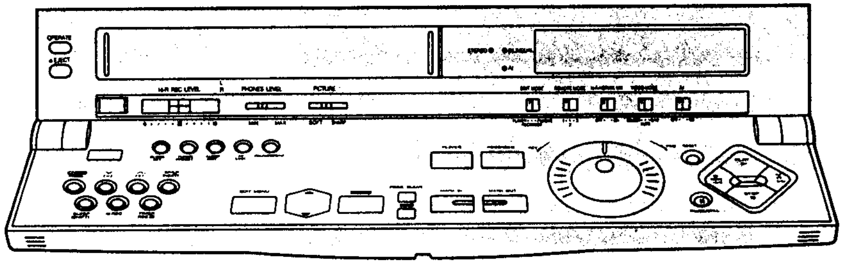
6 Press **CLOCK/PRESET**.

CLOCK/PRESET
VTR1

7 Close the door of the remote controller.

Note:
Enter ShowView numbers which are ahead of the present time. Otherwise, they will not be set into the proper guide numbers.

Other Preparations

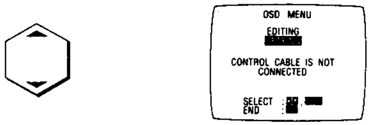


Initial Settings Using On Screen Displays

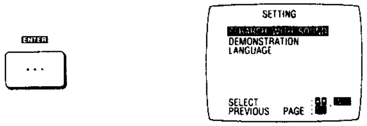
1 Press **EDIT MENU**.

2 Select **SETTING**.

On Screen Display


OSD MENU
EDITING
CONTROL CABLE IS NOT CONNECTED
SELECT
END

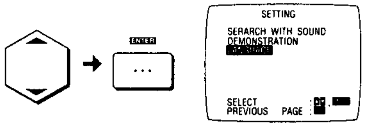
3 Press **ENTER**.


ENTER
SETTING
DEMONSTRATION
LANGUAGE
SELECT
PREVIOUS PAGE

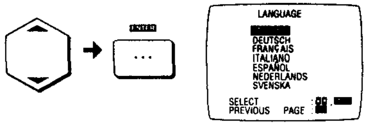
To select the Desired Language

Select one of the seven languages displayed: English, German, French, Italian, Spanish, Dutch and Swedish.
Follow steps **1** to **3** of the above procedure.

4 Select **LANGUAGE**.


ENTER
SETTING
SERARCH WITH SOUND
DEMONSTRATION
SELECT
PREVIOUS PAGE

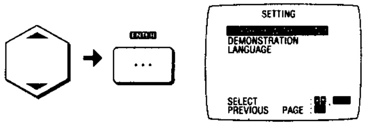
5 Select the desired language.


ENTER
LANGUAGE
DEUTSCH
FRANÇAIS
ITALIANO
ESPAÑOL
NEDERLANDS
SVENSKA
SELECT
PREVIOUS PAGE

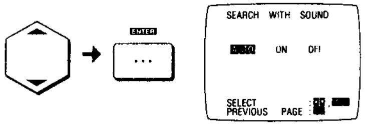
To select Sound Setting

Follow steps **1** to **3** of the above procedure.

4 Select **SEARCH WITH SOUND**.


ENTER
SETTING
DEMONSTRATION
LANGUAGE
SELECT
PREVIOUS PAGE

5 Select the desired setting.


ENTER
SEARCH WITH SOUND
ON
OFF
SELECT
PREVIOUS PAGE

AUTO: The sound can be heard during special playback only when an editing operation is in progress.

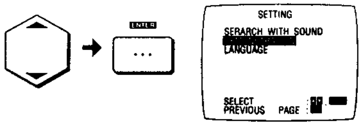
ON: The sound can be always heard during special playback.

OFF: The sound can not be heard during special playback.

To View a Demonstration

Follow steps **1** to **3** of the above procedure.

4 Select **DEMONSTRATION**.


ENTER
SETTING
SERARCH WITH SOUND
LANGUAGE
SELECT
PREVIOUS PAGE

- The On Screen Displays for editing are displayed one after the other at about five second intervals.

Power Source for the Remote Controller

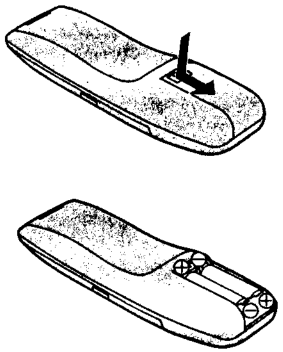
The remote controller is powered by 2 "UM3" or "R6" size batteries. The life of the batteries is about one year, although this depends on the frequency of use.

- When the batteries wear out, the ⌂ indication appears. When this happens, replace the batteries with new ones.

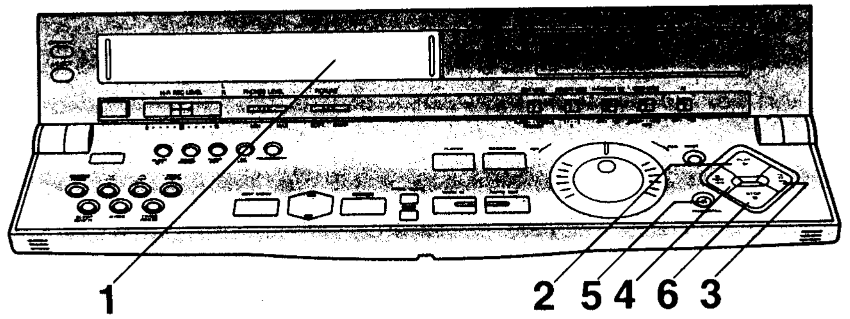
Precautions for Battery Replacement

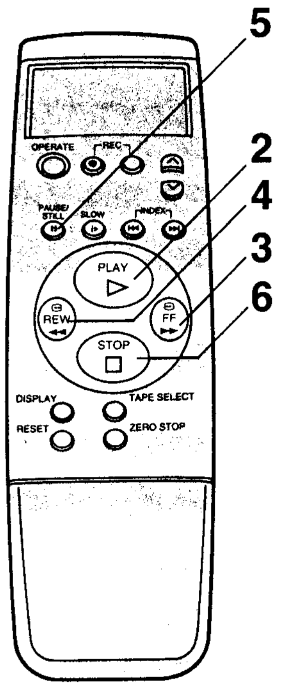
- Load the new batteries with their polarity (⊕ and ⊖) aligned correctly.
- Do not apply heat to the batteries, or an internal short-circuit may occur.
- If you do not intend to use the remote controller for a long period of time, remove the batteries and store them in a cool and dry place.
- Remove spent batteries immediately and dispose of them.
- Do not use an old and a new battery together, and never use an alkaline battery with a manganese battery.

Installing the Batteries



Playback




OPERATE
REC
PAUSE/STILL
SLOW
INDEX
PLAY
REW
FF
STOP
DISPLAY
TAPE SELECT
RESET
ZERO STOP
5
2
4
3
6

Operations	Display Symbols	
1		Insert a recorded cassette tape.
2 PLAY ▷	▷	Start viewing the picture.
3 FF ►►	▷▷	Search forward by tapping **FF**. •To change back to normal playback, press **PLAY**.
4 REW ◄◄	◁◁	Search backward by tapping **REW**. •To change back to normal playback, press **PLAY**.
5 PAUSE/STILL	‖	View a still picture. •To continue the normal playback, press **PLAY** or **PAUSE/STILL**.
6 STOP □		Stop viewing the picture.

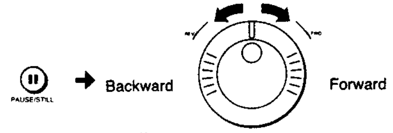
Other Playback Functions

To change the Playback Speed

Using Shuttle Ring:

1 Press **PAUSE/STILL** on the VTR.

2 Rotate Shuttle Ring.


PAUSE/STILL
Backward
Forward

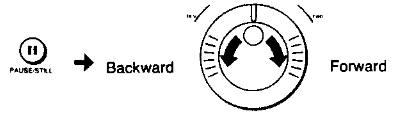
Using Remote Controller:
Press **SLOW** during playback to activate slow playback.

SLOW

To locate the Desired Picture exactly

1 Press **PAUSE/STILL** on the VTR.

2 Turn Jog Dial.


PAUSE/STILL
Backward
Forward

To obtain High Speed Picture during Fast Forward or Rewind

Keep **FF** pressed during fast forward.
Keep **REW** pressed during rewind.

REW ◄◄ FF ►►

To return to a Specified Scene

1 Press **RESET** to set the counter to 0:00.00.

2 After playback, press **ZERO STOP** in the stop mode.

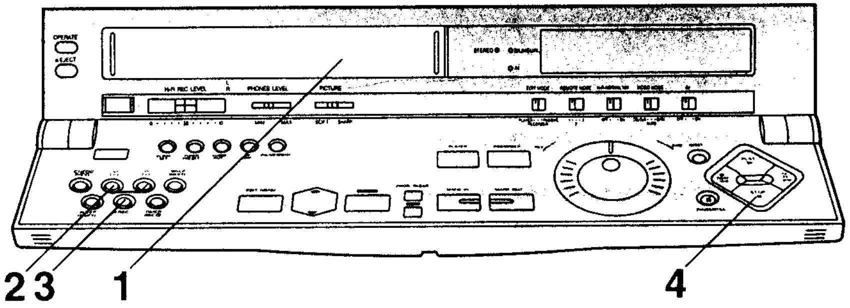
RESET ○ ○ ZERO STOP

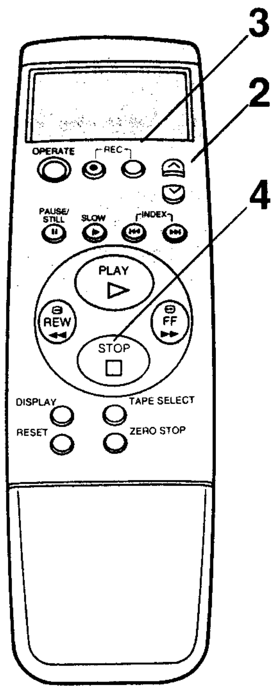
- •The tape will be rewound or fast forwarded to 0:00.00.

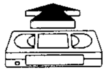
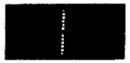
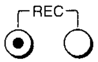
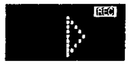
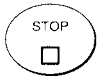
Note:

- •During Playback, set **PAL/MESECAM**.
  - PAL: When playing back a tape recorded in the PAL system
  - MESECAM: When playing back a tape recorded in the MESECAM system. MESECAM Indicator lights up.
- •Audio reproduction of linear (conventionally recorded) tapes will be monaural when played back on the FM Hi-Fi video recorders.
- •Cue or review playback will be automatically released after 10 minutes, and still or slow playback after 5 minutes.

On-the-spot Recording




3
2
4
OPERATE
REC
PAUSE/STILL
SLOW
INDEX
PLAY
REW
FF
STOP
DISPLAY
TAPE SELECT
RESET
ZERO STOP

Operations	Display Symbols	
1 		Insert a cassette tape. • If it has already been inserted, press **OPERATE** to turn the VTR on.
2		Select TV station.
3  REC		Start recording.
4  STOP		Stop recording.

To select the Desired Tape Speed

Press **SP/LP** before recording.

SP/LP
(NEXT)
SP

To interrupt Recording

Press **PAUSE/STILL** during recording.
Press again to continue recording.

PAUSE/STILL

To record One TV Programme while Viewing Another Programme

1 Refer to the on-the-spot recording operations steps 1 to 3.

2 Select the TV programme on your TV set you wish to view at the present time.

To display the Approximate Remaining Tape Time

1 Press **TAPE SELECT** to select the corresponding cassette tape length.

TAPE SELECT
E195

E195: For E30, -60, -80, -120, -180 and -195 tapes
E240: For E240 tape
E260: For E260 and -300 tapes

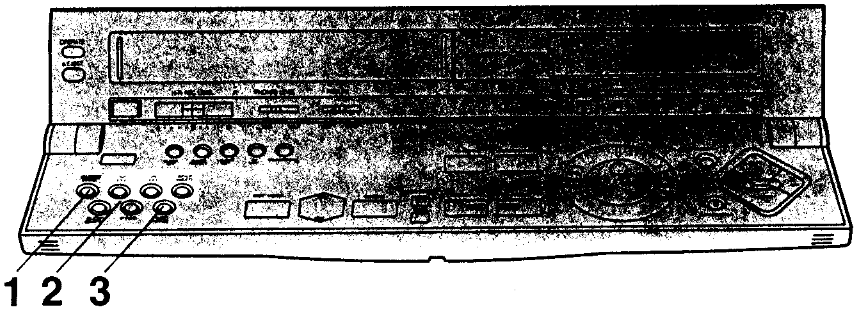
2 Press **DISPLAY**.

DISPLAY
1:05

→Clock→Counter→**Remaining Tape Time**→

Notes:
- When a video cassette with a broken off tab is inserted, the "▣" indication will flash to indicate that recording is not possible.
- The recording pause mode will be automatically released after 5 minutes, and be back to the stop mode.

Timer Recording



Up to 8 timer programmes can be recorded up to one month in advance by setting the timer, including daily and weekly programmes.

Preparation

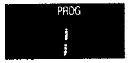
Insert a cassette tape with an intact erasure prevention tab.

For Example:

Timer programme number;	1
Programme position (channel);	2
Date;	27th, October
Starting time;	20:02
Ending time;	21:30
(present date; 16th October)	

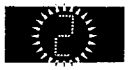
Operations — Display Symbols

1 CHECK PROG

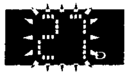


Select **Timer programme number** "1".

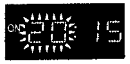
2 Set each item by pressing ∧ (+) or ∨ (−) and **SP/LP (NEXT)**.



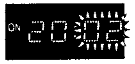
Set **Programme position** (channel) "2".



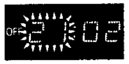
Set **Date** "27".
- For daily and weekly recording, see next page.



Set **Starting time** (hour) "20".

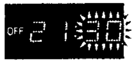


Set **Starting time** (minute) "02".



Set **Ending time** (hour) "21".

SP/LP (NEXT)



Set **Ending time** (minute) "30".
- There is no need to press **SP/LP (NEXT)**.

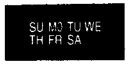
3 TIMER REC

To activate timer recording, press **TIMER REC**.

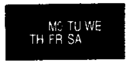
Setting for Daily and Weekly Timer Recording

In the Date setting step, press ∨ (−) repeatedly until the desired day (days) is displayed.

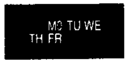
Daily recording
From Sunday to Saturday



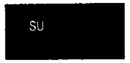
From Monday to Saturday



From Monday to Friday



Weekly recording
For example, Sunday



Timer Recording from External Signal Source

If Timer Recording is performed by a unit connected to the AV1/AV2 Socket or the Audio/Video input sockets, select the A1, A2 or A3 indicator for the programme position.

A1: Through the AV1 socket
A2: Through the AV2 socket
A3: Through the Audio/Video input sockets (AV3)

Selecting the Desired Tape Speed

After step **2**, press **SP/LP (NEXT)** and select SP or LP by pressing ∧ (+) or ∨ (−).

Setting other Programmes in Succession

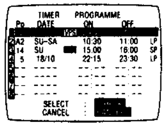
Repeat steps **1** and **2**.

Checking a Timer Programme

Select the timer programme number to be checked by pressing **CHECK/PROG**.

On Screen Display

CHECK PROG

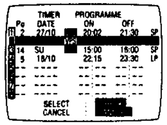


Cancelling a Timer Programme

1 Press **TIMER REC** to turn off the timer recording function.

2 Select the timer programme number to be canceled by pressing **CHECK/PROG**.

3 Press ∧ (+) and ∨ (−) simultaneously for more than 3 seconds.



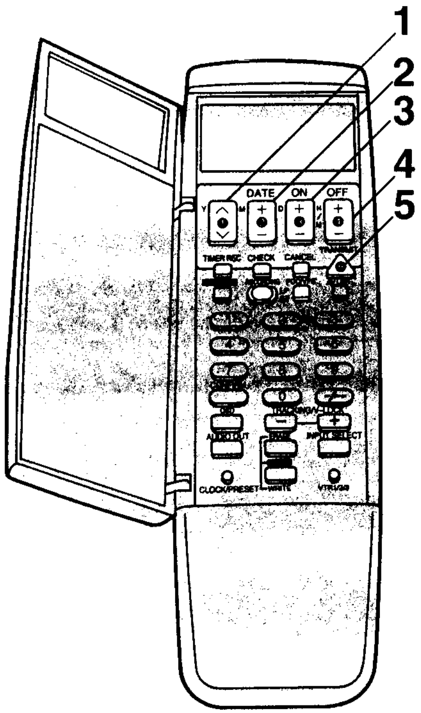
PDC (Programme Delivery Control)/VPS (Video Programme System)

The Programme Delivery Control (PDC) or the Video Programme System (VPS) is a very convenient system which assures that the TV programmes you have programmed for timer recording will be recorded exactly from beginning to end, even if the actual broadcasting time differs from the scheduled time due to delayed start or extension of the programme duration. Also, if a programme is interrupted and, for example, some special news are inserted, the recording will also be interrupted automatically and resumed when the programme continues.

- Press **SLEEP (SHIFT)** in step **2** to cancel the PDC/VPS function.
- In the case of PDC/VPS recording, use the **correct** time (PDC/VPS time) for recording the TV programmes. PDC/VPS recording is not performed when the time (PDC/VPS time) is incorrect, even if only by one minute.
- If the actual broadcasting times of timer recordings overlap (regardless of whether they are PDC/VPS controlled), the recording that starts first has always priority, and the recording of the later beginning programme will start only after the first timer recording has finished.
- When the PDC/VPS signal drops out because the broadcast signal is weak, or when a broadcasting station does not transmit a regular PDC/VPS signal, the timer recording will be performed in the normal mode (without PDC/VPS) even if it was programmed for PDC/VPS. In this case, even if the timer recording is performed, whatever has been programmed will not be cancelled at that particular time but at 4 a.m. on the following day.

Note:
If a timer recording is not performed to the end (due to insufficient tape or cancellation by the user), the programmed timer recording data will be cancelled from the memory by 4 a.m. two days later.
However, if the Timer Record Function is activated at that time, the programmed timer recording data will be cancelled at 4 a.m. the next day.

Using the Remote Controller


1
2
3
4
5
DATE
ON
OFF
TIMER REC
CHECK
CANCEL
TRANSMIT
AUDIO OUT
INPUT SELECT
CLOCK/PRESET
VTR1/2/3

Preparation

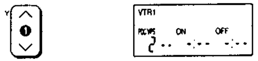
- Insert a cassette tape with an intact erasure prevention tab.
- Open the door of the remote controller.

For Example:

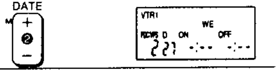
Programme position (channel);	2
Date;	27th, October
Starting time;	20:02
Ending time;	21:30

Operations **Display Symbols**

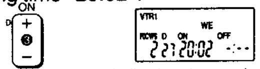
1 Set Programme position (channel) "2".



2 Set Date "27".

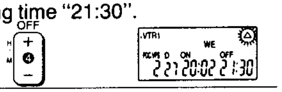


3 Set Starting time "20:02".



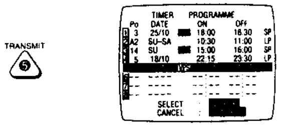
- When it is kept pressed, the indication changes in 30-minute steps.

4 Set Ending time "21:30".



5 Press **TRANSMIT**.

On Screen Display


TRANSMIT
SELECT
CANCEL

6 Close the door of the remote controller.

Daily Timer Recording

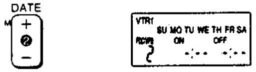
For this timer function, several groups of days can be selected.

Ⓐ Daily recording from Sunday to Saturday

Ⓑ Daily recording from Monday to Saturday

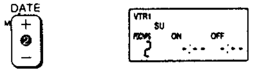
Ⓒ Daily recording from Monday to Friday

In step **2**, select the desired days by pressing **DATE –**.
For Example, Ⓐ


DATE
SU MO TU WE TH FR SA

Weekly Timer Recording

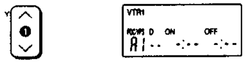
In step **2**, select the desired day by pressing **DATE –**.
For example, SU (Sunday)



Timer Recording from External Signal Source

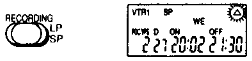
If Timer Recording is performed by a unit connected to the AV1/AV2 Socket or the Audio/Video input sockets, select the A1, A2 or A3 indicator in step **1** for the programme position.

A1: Through the AV1 socket
A2: Through the AV2 socket
A3: Through the Audio/Video input sockets (AV3)



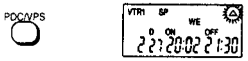
Selecting the Desired Tape Speed

Press **RECORDING SP/LP** in any of steps **2–4**.


RECORDING
LP
SP

Turning PDC/VPS Function On and Off

Press **PDC/VPS** in any of steps **2–4**.

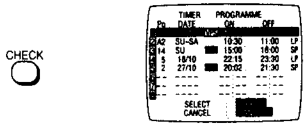


Checking a Timer Programme

- The VTR must be turned on, or the timer recording indicator "⏲" is lit.

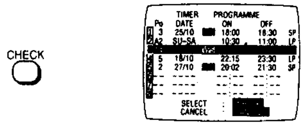
Press **CHECK**.

On Screen Display

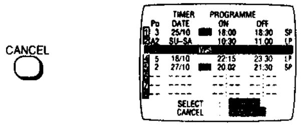

CHECK
SELECT
CANCEL

Cancelling a Timer Programme

1 Press **CHECK** repeatedly to select the desired timer programme number.


CHECK
SELECT
CANCEL

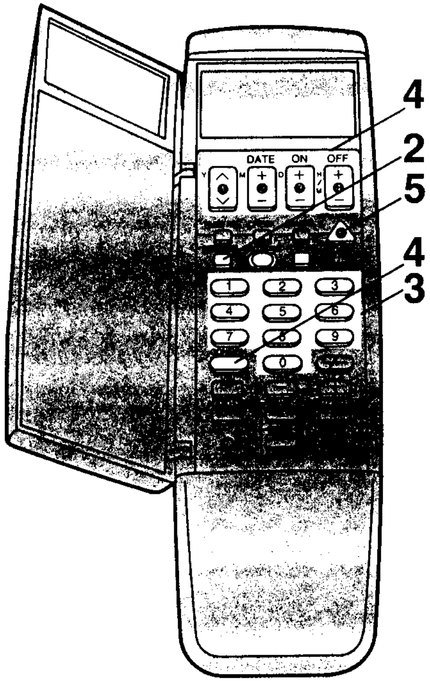
2 Press **CANCEL**.


CANCEL
SELECT
CANCEL

Other Functions

ShowView Programming

Programming is now easier than ever: simply enter the ShowView number provided in the programme schedule column carried by newspapers and magazines.
ShowView numbers are numbers which are assigned to each programme listed in the TV programme schedule carried in newspapers and TV guides. When these numbers are entered and **TRANSMIT** is pressed, the numbers are converted into the actual programming and sent to the VTR.

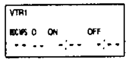


Preparation

- Insert a cassette tape with an intact erasure prevention tab.
- Set the programme positions on both the VTR and remote controller as shown on pages 10–13.

Operations **Display Symbols**

1 Open the door of the remote controller.

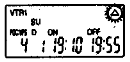


2 Press **ShowView**.

3 Enter a ShowView number.
Example: 920216

4 Press **CONFIRM** to check that the number corresponds to the right programme.

CONFIRM

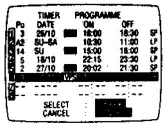


- To make any corrections, use buttons ❶–❹.

5 Press **TRANSMIT**.

TRANSMIT

On Screen Display



6 Close the door of the remote controller.

Notes:
- To select the desired tape speed, press **RECORDING SP/LP** in any of steps **1–4**.
- To cancel the PDC/VPS function, press **PDC/VPS** in any of steps 1–4.
- When the ShowView number is used for programming, the recording time may be slightly longer than the actual programme time.
- Repeat steps **2** to **4** if "Err" appears on the remote controller.
- When programming two or more programmes, repeat steps **2** to **5**.
- The procedures for checking and canceling whatever has been programmed are the same as for remote control programming.

VHS Index Search System

It is very easy to find the beginning of each recording, because a special index signal is recorded at the start of each recorded segment on the tape.

For example:
Searching for the 2nd recorded segment in the forward direction.
Press **INDEX ▶▶I** twice.

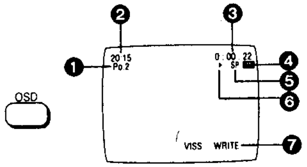
- After finding the specific recorded segment, playback starts automatically.
- For the reverse direction, press **INDEX I◀◀**.
- Up to 20 programmes can be searched for in both directions.

Recording Index Signals
Index signals are recorded in following cases.
WRITE indicator appears on the Display.
- When a recording is started by pressing **REC**.
- When **REC** is pressed during recording.
- When timer recording is activated.
- When **WRITE** is pressed during playback.

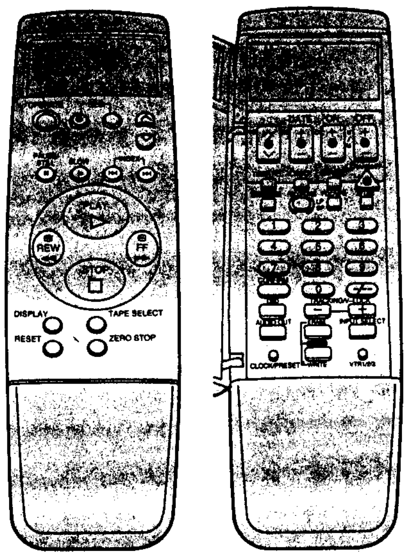
Erasing Index Signals
1 Search the Index signal to be erased by pressing **INDEX ▶▶I** or **I◀◀**.
2 Press **PAUSE/STILL** when playback starts.
3 Press **ERASE**.
- Erasing is possible during playback if **ERASE** is pressed during the five seconds following the index signal.

On Screen Display

Press **OSD** to make the On Screen Display appear on the TV screen.
- To make this display disappear, press **OSD** again.



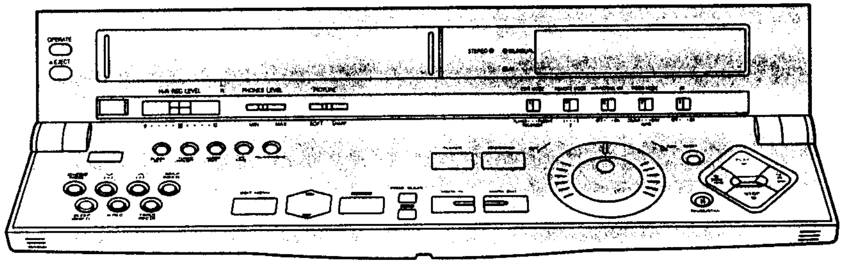
Note:
On Screen Display will not appear during NTSC playback.



❶ Programme position
❷ Present time
❸ Tape counter
❹ Cassette-in indicator
❺ Tape speed indicator
❻ Tape running display

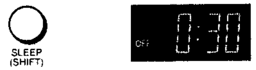
Stop, Eject	■
Rewind, Review	◀◀
Fast Forward, Cue	▶▶
Playback	▶
Reverse Playback	◀
Still Playback	II
Recording, Insert, Audio Dubbing	●
Recording Pause, Insert Pause, Audio Dubbing Pause	II●
Slow Playback	I▶
Reverse Slow Playback	◀I

❼ Index signal writing or erasing indicator



Automatic VTR Off Time Setting

Press **SLEEP** for the desired time.



- Each press gives a 30 minutes time span up to 9 hours.
- To cancel the setting time, press **SLEEP** repeatedly to set 0:00.

NTSC Playback

Tapes recorded in the NTSC system can be played back with this VTR via a PAL system TV set.

S-VHS Quasi Playback (SQPB)

It is also possible to playback tapes recorded in the S-VHS system.

- Some picture noise may occur depending on the type of tape used.
- It is not possible to fully obtain the high resolution that S-VHS is capable of.
- It is not possible to record in the S-VHS system with this VTR.

Other Automatic Functions

Automatic Playback

When a cassette without an erasure prevention tab is inserted, the VTR starts playback automatically.

VTR-off Playback

When the VTR is off, an inserted cassette can be played back by pressing **PLAY**.

Automatic Rewinding

When the tape reaches its end during recording (except for timer recording) or playback, it will automatically be rewound to the beginning.

Automatic Switching Off and Ejection

When the VTR is switched off, an inserted cassette can be ejected simply by pressing **EJECT**. The VTR will eject the cassette and automatically turn itself off again.

Editing Preparation

This VTR is equipped with programme editing functionality. If connected via edit cable to another VTR or a movie camera, it is possible to control such functions as tape playback and editing.

Connections

Connecting This VTR with Another Identical One

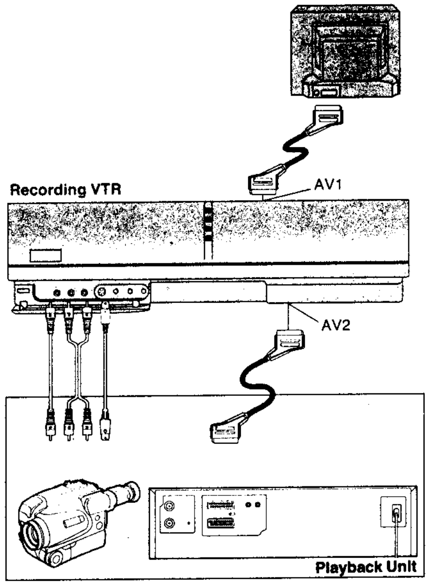
- Connect the two VTRs with an edit cable.
- Connect the AV1 socket on the playback VTR to the AV2 socket on the recording VTR.
- Connect the AV1 socket on the recording VTR to the TV.
- Select A2 by pressing ∧ ∨ or **INPUT SELECT** on the recording VTR.
- Set **EDIT MODE** to PASSIVE on the playback VTR, and to RECORDER on the recording VTR.
- Control is performed by the recording VTR.

Using This VTR as the Recording VTR

- Connect this VTR to the playback unit with an edit cable.
- Connect the AV2 socket or the AUDIO/VIDEO IN (AV3) sockets on this VTR to the playback unit.
- Connect the AV1 socket on this VTR to the TV.
- Select A2 or A3 by pressing ∧ ∨ or **INPUT SELECT** on this VTR.
- Set **EDIT MODE** on this VTR to RECORDER.
- Control is performed by this VTR.

Using This VTR as the Playback VTR

- Connect this VTR to the recording unit with an edit cable.
- Connect the AV2 socket on this VTR to the recording unit.
- Connect the AV1 socket on this VTR to the TV.
- Set the input switch on the recording unit to AV.
- Set **EDIT MODE** on this VTR to PLAYER.
- Control is performed by this VTR.



Notes:

- When connecting a VTR or movie camera which does not have an edit socket, see page 44.
- During editing operations, operate using this VTR; do not operate the other unit.
- When this VTR is used as the playback VTR, it may not be possible to perform editing operations properly depending on the type of the recording VTR. In such a case, use this VTR as the recording VTR.
- When a movie camera is connected, operating this VTR will not facilitate reverse playback or reverse slow playback on the movie camera.
- When **EDIT MODE** on this VTR is set to PASSIVE, operation will not be possible, and the On Screen Display will not appear.
- When making a connection using an edit cable, disconnection of the AC mains lead on this VTR may result in erroneous display patterns on the other unit.
- When operating the Jog Dial and Shuttle Ring, it is only possible to reset the tape counter of the other unit during still playback.
- The supplied edit cable cannot be used to connect two other VTRs with edit sockets.
- The On Screen Display does not appear when no input signals are supplied from another unit or when a non-recorded cassette is played.
- The On Screen Display may appear distorted if the picture is affected by noise.

Editing Functions

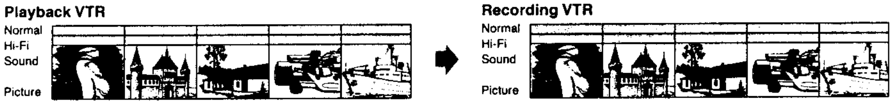
Using this VTR, 4 types of manual editing and 4 types of programme editing can be selected.
In programme editing, after programming up to 10 scenes for each type, editing can be performed automatically.

Manual Editing
- Copying
- Insert Editing
- AV Insert Editing
- Audio Dubbing

Programme Editing
- Assemble Editing
- Insert Editing
- AV Insert Editing
- Audio Dubbing

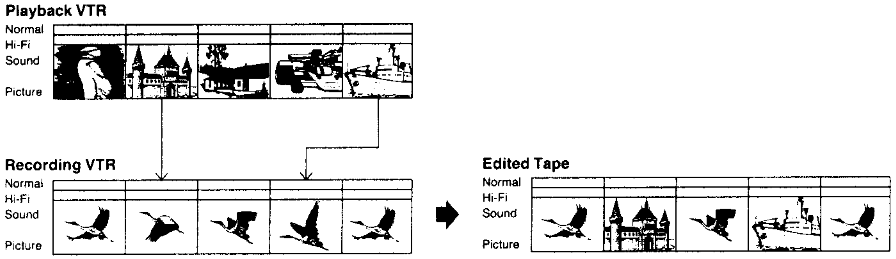
Copying

Allows the re-recording (copying) of the picture and sound from one tape onto another tape.


Playback VTR
Normal
Hi-Fi
Sound
Picture
Recording VTR
Normal
Hi-Fi
Sound
Picture

Insert Editing

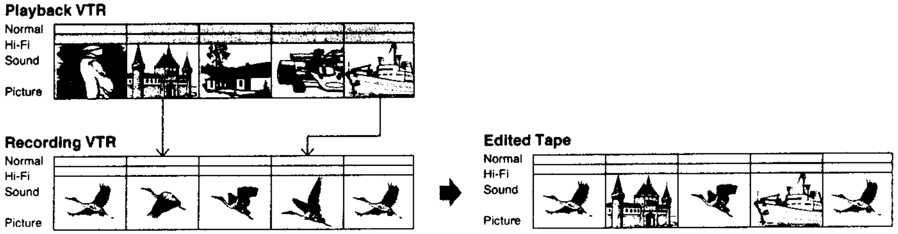
Allows the partial replacement of the picture and Hi-Fi sound on a recorded tape. Normal sound is left in its original state.


Playback VTR
Normal
Hi-Fi
Sound
Picture
Recording VTR
Normal
Hi-Fi
Sound
Picture
Edited Tape
Normal
Hi-Fi
Sound
Picture

- To hear the original sound, select the normal sound track by pressing **AUDIO OUT**.
- To hear the new sound and original sound mixed together, set **HI-FI/NORMAL MIX** to ON.

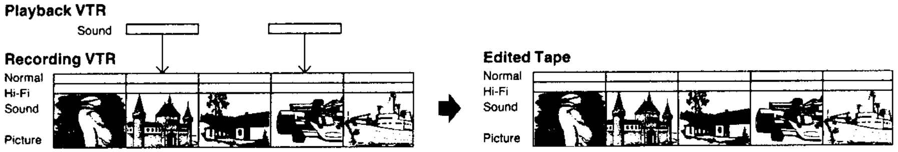
AV Insert Editing

Allows the partial replacement of the picture and both the Hi-Fi and normal sound on a recorded tape.


Playback VTR
Normal
Hi-Fi
Sound
Picture
Recording VTR
Normal
Hi-Fi
Sound
Picture
Edited Tape
Normal
Hi-Fi
Sound
Picture

Audio Dubbing

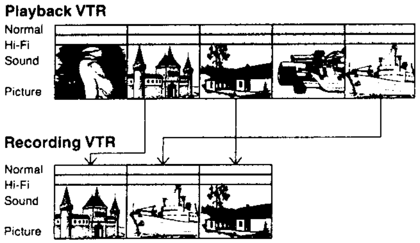
Allows the partial replacement of the normal sound on a recorded tape. Hi-Fi sound is left in its original state.


Playback VTR
Sound
Recording VTR
Normal
Hi-Fi
Sound
Picture
Edited Tape
Normal
Hi-Fi
Sound
Picture

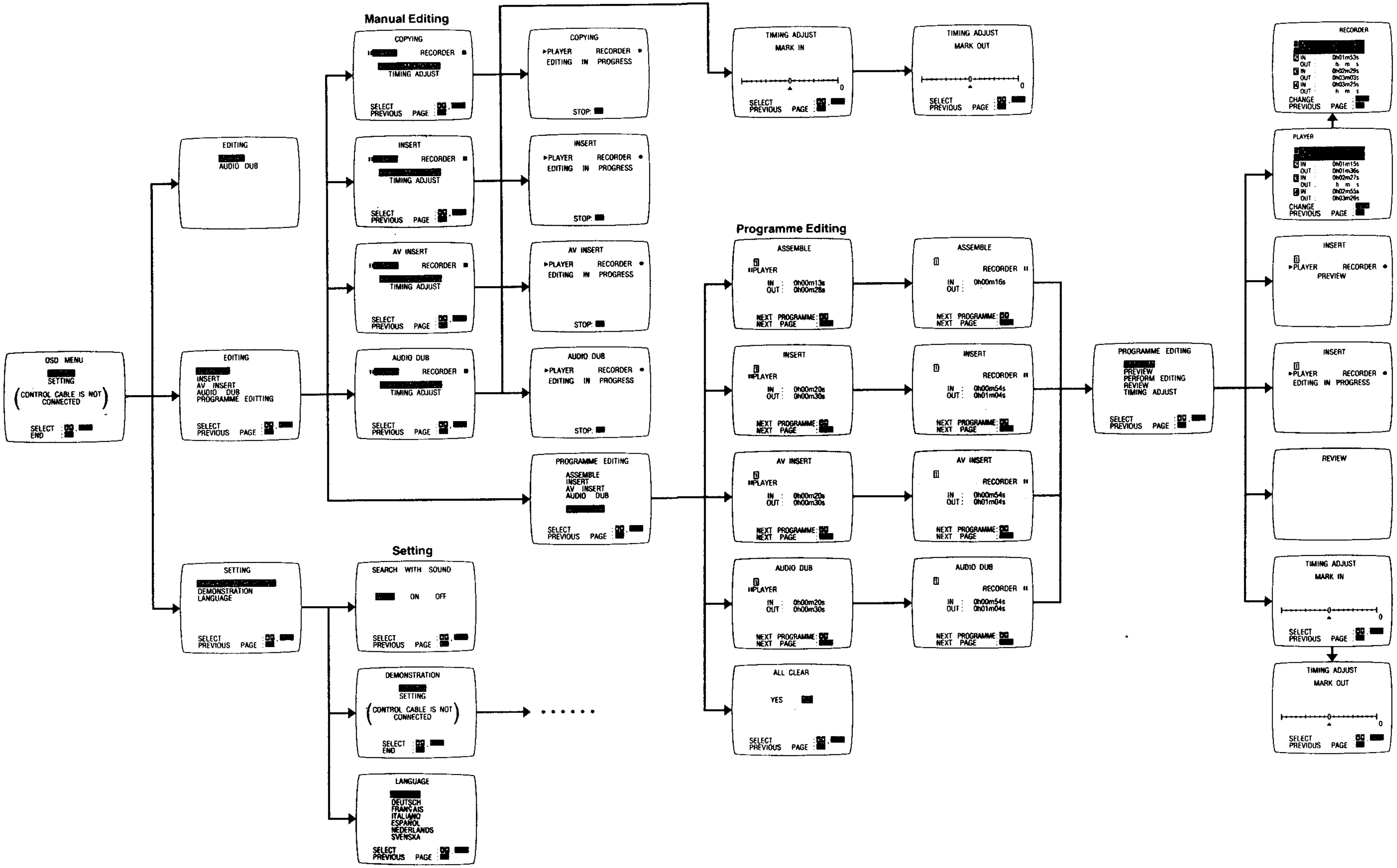
- To hear the new sound, select the normal sound track by pressing **AUDIO OUT**.
- To hear the new sound and original sound mixed together, set **HI-FI/NORMAL MIX** to ON.

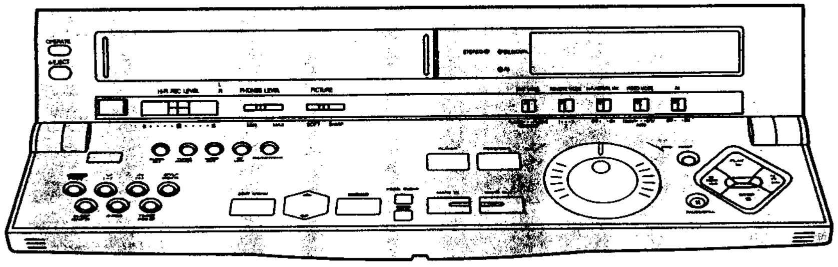
Assemble Editing

Allows the required scenes (picture and sound) to be picked up from one or more recorded tapes and recorded in any desired order onto another tape.


Playback VTR
Normal
Hi-Fi
Sound
Picture
Recording VTR
Normal
Hi-Fi
Sound
Picture

Flow Chart for On Screen Displays


OSD MENU
SETTING
(CONTROL CABLE IS NOT CONNECTED)
SELECT
END
EDITING
AUDIO DUB
EDITING
INSERT
AV INSERT
AUDIO DUB
PROGRAMME EDITTING
SELECT
PREVIOUS PAGE
SETTING
DEMONSTRATION
LANGUAGE
SELECT
PREVIOUS PAGE
Manual Editing
COPYING
RECORDER ■
TIMING ADJUST
SELECT
PREVIOUS PAGE
INSERT
RECORDER ■
TIMING ADJUST
SELECT
PREVIOUS PAGE
AV INSERT
RECORDER ■
TIMING ADJUST
SELECT
PREVIOUS PAGE
AUDIO DUB
RECORDER ■
TIMING ADJUST
SELECT
PREVIOUS PAGE
COPYING
▸PLAYER RECORDER ●
EDITING IN PROGRESS
STOP
INSERT
▸PLAYER RECORDER ●
EDITING IN PROGRESS
STOP
AV INSERT
▸PLAYER RECORDER ●
EDITING IN PROGRESS
STOP
AUDIO DUB
▸PLAYER RECORDER ●
EDITING IN PROGRESS
STOP
PROGRAMME EDITING
ASSEMBLE
INSERT
AV INSERT
AUDIO DUB
SELECT
PREVIOUS PAGE
Setting
SEARCH WITH SOUND
ON OFF
SELECT
PREVIOUS PAGE
DEMONSTRATION
SETTING
(CONTROL CABLE IS NOT CONNECTED)
SELECT
END
LANGUAGE
DEUTSCH
FRANÇAIS
ITALIANO
ESPAÑOL
NEDERLANDS
SVENSKA
SELECT
PREVIOUS PAGE
TIMING ADJUST
MARK IN
0
SELECT
PREVIOUS PAGE
TIMING ADJUST
MARK OUT
0
SELECT
PREVIOUS PAGE
Programme Editing
ASSEMBLE
1
PLAYER
IN : 0h00m13s
OUT : 0h00m28s
NEXT PROGRAMME
NEXT PAGE
INSERT
1
PLAYER
IN : 0h00m20s
OUT : 0h00m30s
NEXT PROGRAMME
NEXT PAGE
AV INSERT
1
PLAYER
IN : 0h00m20s
OUT : 0h00m30s
NEXT PROGRAMME
NEXT PAGE
AUDIO DUB
1
PLAYER
IN : 0h00m20s
OUT : 0h00m30s
NEXT PROGRAMME
NEXT PAGE
ALL CLEAR
YES
SELECT
PREVIOUS PAGE
ASSEMBLE
1
RECORDER II
IN : 0h00m16s
OUT :
NEXT PROGRAMME
NEXT PAGE
INSERT
1
RECORDER II
IN : 0h00m54s
OUT : 0h01m04s
NEXT PROGRAMME
NEXT PAGE
AV INSERT
1
RECORDER II
IN : 0h00m54s
OUT : 0h01m04s
NEXT PROGRAMME
NEXT PAGE
AUDIO DUB
1
RECORDER II
IN : 0h00m54s
OUT : 0h01m04s
NEXT PROGRAMME
NEXT PAGE
PROGRAMME EDITING
PREVIEW
PERFORM EDITING
REVIEW
TIMING ADJUST
SELECT
PREVIOUS PAGE
RECORDER
2 IN : 0h01m53s
OUT : h m s
3 IN : 0h02m29s
OUT : 0h03m03s
4 IN : 0h03m25s
OUT : h m s
CHANGE
PREVIOUS PAGE
PLAYER
2 IN : 0h01m15s
OUT : 0h01m36s
3 IN : 0h02m27s
OUT : h m s
4 IN : 0h02m55s
OUT : 0h03m26s
CHANGE
PREVIOUS PAGE
INSERT
1
▸PLAYER RECORDER ●
PREVIEW
INSERT
1
▸PLAYER RECORDER ●
EDITING IN PROGRESS
REVIEW
TIMING ADJUST
MARK IN
0
SELECT
PREVIOUS PAGE
TIMING ADJUST
MARK OUT
0
SELECT
PREVIOUS PAGE



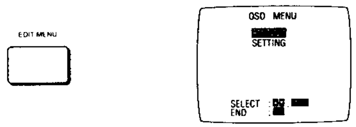
Copying

Preparation

- Make the necessary connections. See page 27.
- Insert a recorded cassette into the playback VTR, and a cassette with an intact erasure prevention tab into the recording VTR.
- Select **PAL/MESECAM** on the recording VTR.
- Confirm that the TV is on.

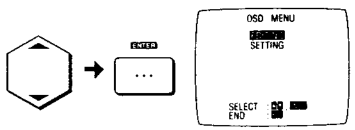
Operations **On Screen Display**

1


EDIT MENU
OSD MENU
SETTING
SELECT
END

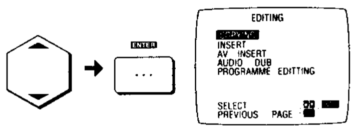
Press **EDIT MENU**.

2


ENTER
OSD MENU
SETTING
SELECT
END

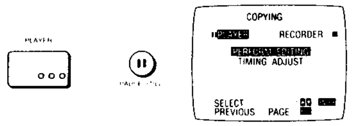
Select **EDITING**.

3


ENTER
EDITING
COPYING
INSERT
AV INSERT
AUDIO DUB
PROGRAMME EDITTING
SELECT
PREVIOUS PAGE

Select **COPYING**.

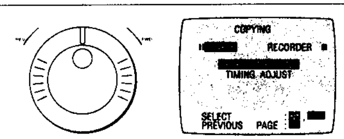
4


PLAYER
PAUSE/STILL
COPYING
PLAYER RECORDER
PERFORM EDITING
TIMING ADJUST
SELECT
PREVIOUS PAGE

Press **PLAYER** and **PAUSE/STILL**.
- The picture from the playback VTR appears on the screen.

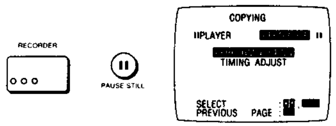
Operations **On Screen Display**

5


COPYING
RECORDER
TIMING ADJUST
SELECT
PREVIOUS PAGE

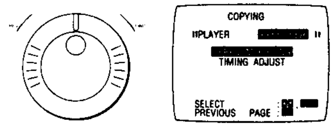
Search for the edit start point on the playback VTR.

6


RECORDER
PAUSE/STILL
COPYING
PLAYER
TIMING ADJUST
SELECT
PREVIOUS PAGE

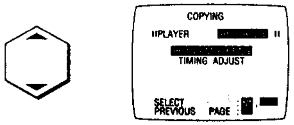
Press **RECORDER** and **PAUSE/STILL**.
- The picture from the recording VTR appears on the screen.
- Steps **6** and **7** need not be performed when a non-recorded cassette is used.

7


COPYING
PLAYER
TIMING ADJUST
SELECT
PREVIOUS PAGE

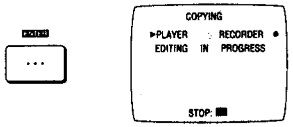
Search for the edit start point on the recording VTR.

8


COPYING
PLAYER
TIMING ADJUST
SELECT
PREVIOUS PAGE

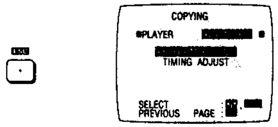
Select **PERFORM EDITING**.

9


ENTER
COPYING
▶PLAYER RECORDER
EDITING IN PROGRESS
STOP:

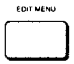
Press **ENTER**.
- Editing begins.

10

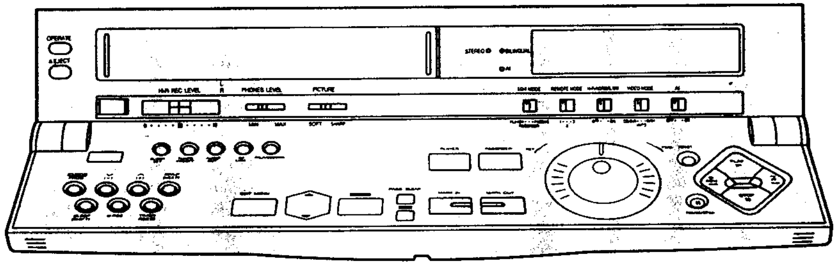

ESC
COPYING
PLAYER
TIMING ADJUST
SELECT
PREVIOUS PAGE

Press **ESC** to stop editing.

11



Press **EDIT MENU**.
- The On Screen Display disappears.



Insert, AV Insert Editing and Audio Dubbing

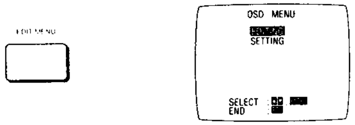
Example: Insert Editing
AV Insert Editing and Audio Dubbing are also performed using the same procedure.

Preparation

- Make the necessary connections. See page 27.
- Insert a recorded cassette into the playback VTR, and a cassette with an intact erasure prevention tab into the recording VTR.
- Select **PAL/MESECAM** on the recording VTR.
- Confirm that the TV is on.

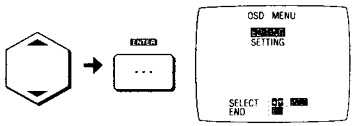
Operations | **On Screen Display**

1


EDIT MENU
OSD MENU
SETTING
SELECT
END

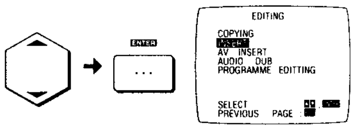
Press **EDIT MENU**.

2


ENTER
OSD MENU
SETTING
SELECT
END

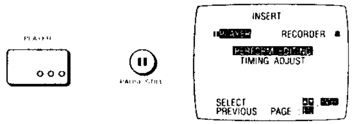
Select **EDITING**.

3


ENTER
EDITING
COPYING
AV INSERT
AUDIO DUB
PROGRAMME EDITTING
SELECT
PREVIOUS PAGE

Select **INSERT**.

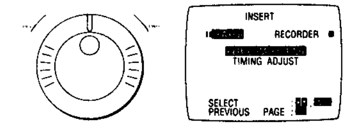
4


PLAYER
PAUSE/STILL
INSERT
RECORDER
TIMING ADJUST
SELECT
PREVIOUS PAGE

Press **PLAYER** and **PAUSE/STILL**.
- The picture from the playback VTR appears on the screen.

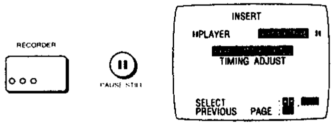
Operations | **On Screen Display**

5


INSERT
RECORDER
TIMING ADJUST
SELECT
PREVIOUS PAGE

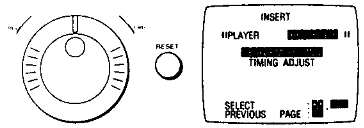
Search for the edit start point on the playback VTR.

6


RECORDER
PAUSE/STILL
INSERT
PLAYER
TIMING ADJUST
SELECT
PREVIOUS PAGE

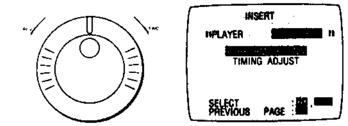
Press **RECORDER** and **PAUSE/STILL**.
- The picture from the recording VTR appears on the screen.

7


RESET
INSERT
PLAYER
TIMING ADJUST
SELECT
PREVIOUS PAGE

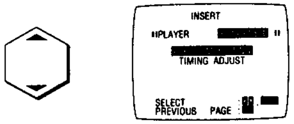
Search for the edit end point on the recording VTR and press **RESET**.

8


INSERT
PLAYER
TIMING ADJUST
SELECT
PREVIOUS PAGE

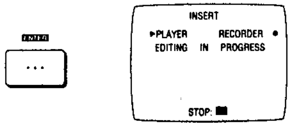
Search for the edit start point on the recording VTR.

9


INSERT
PLAYER
TIMING ADJUST
SELECT
PREVIOUS PAGE

Select **PERFORM EDITING**.

10

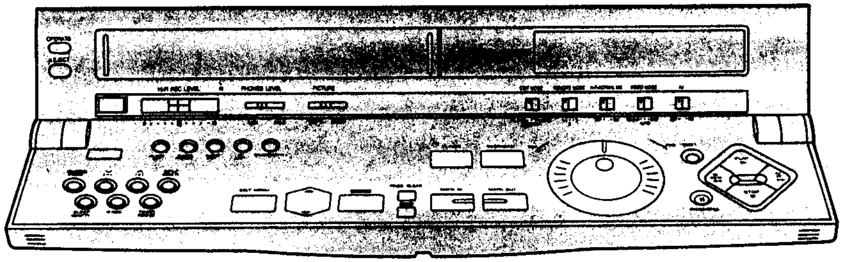

ENTER
INSERT
PLAYER
RECORDER
EDITING IN PROGRESS
STOP:

Press **ENTER**.
- Editing begins.
- Editing will finish when the counter reaches 0:00.00.

11

Press **EDIT MENU**.
- The On Screen Display disappears.

Programme Editing



Assemble Editing

By setting the edit start point and end point on the playback VTR, along with the edit start point on the recording VTR, assemble editing of up to 10 scenes can be performed automatically.

Preparation

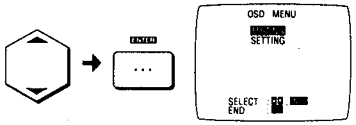
- Make the necessary connections. See page 27.
- Insert a recorded cassette into the playback VTR, and a cassette with an intact erasure prevention tab into the recording VTR.
- Select **PAL/MESECAM** on the recording VTR.
- Confirm that the TV is on.

Operations **On Screen Display**

1

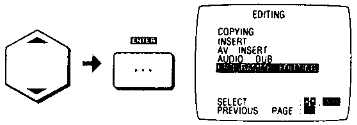
Press **EDIT MENU**.

2


ENTER
OSD MENU
SETTING
SELECT
END

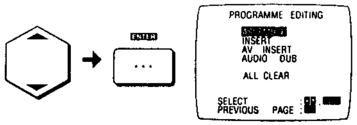
Select **EDITING**.

4


ENTER
EDITING
COPYING
INSERT
AV INSERT
AUDIO DUB
SELECT
PREVIOUS PAGE

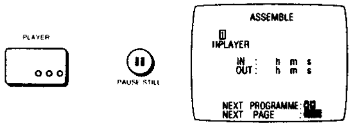
Select **PROGRAMME EDITING**.

4


ENTER
PROGRAMME EDITING
INSERT
AV INSERT
AUDIO DUB
ALL CLEAR
SELECT
PREVIOUS PAGE

Select **ASSEMBLE**.

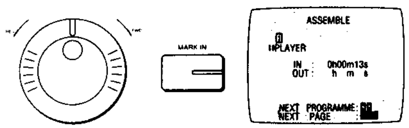
5


PLAYER
PAUSE/STILL
ASSEMBLE
1
PLAYER
IN : h m s
OUT : h m s
NEXT PROGRAMME
NEXT PAGE

Press **PLAYER** and **PAUSE/STILL**.
- The picture from the playback VTR appears on the screen.

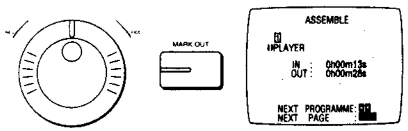
Operations **On Screen Display**

6


MARK IN
ASSEMBLE
1
PLAYER
IN : 0h00m13s
OUT : h m s
NEXT PROGRAMME
NEXT PAGE

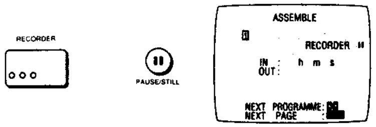
Search for the edit start point on the playback VTR and press **MARK IN**.

7


MARK OUT
ASSEMBLE
1
PLAYER
IN : 0h00m13s
OUT : 0h00m28s
NEXT PROGRAMME
NEXT PAGE

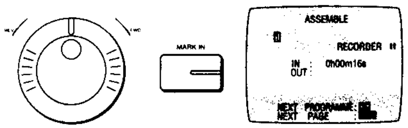
Search for the edit end point on the playback VTR and press **MARK OUT**.
- If there is more than one programme, select a programme number using ▼ and ▲, and repeat steps **6** and **7**.

8


RECORDER
PAUSE/STILL
ASSEMBLE
1
RECORDER
IN : h m s
OUT :
NEXT PROGRAMME
NEXT PAGE

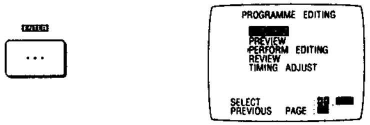
Press **RECORDER** and **PAUSE/STILL**.
- The picture from the recording VTR appears on the screen.
- Steps **8** and **9** need not be performed when a non-recorded cassette is used.

9


MARK IN
ASSEMBLE
1
RECORDER
IN : 0h00m16s
OUT :
NEXT PROGRAMME
NEXT PAGE

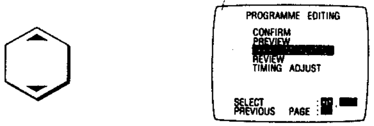
Search for the edit start point on the recording VTR and press **MARK IN**.

10


ENTER
PROGRAMME EDITING
PREVIEW
PERFORM EDITING
REVIEW
TIMING ADJUST
SELECT
PREVIOUS PAGE

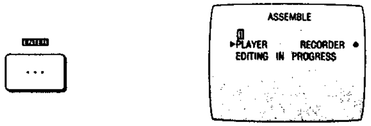
Press **ENTER**.
- The edit start point and the edit end point are memorized.

11

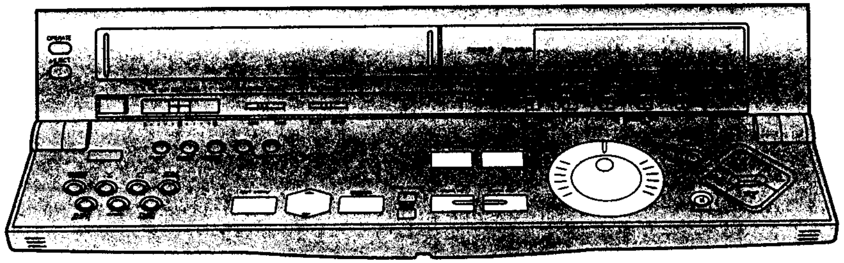

PROGRAMME EDITING
CONFIRM
PREVIEW
REVIEW
TIMING ADJUST
SELECT
PREVIOUS PAGE

Select **PERFORM EDITING**.

12


ENTER
ASSEMBLE
1
PLAYER
RECORDER
EDITING IN PROGRESS

Press **ENTER**.
- Editing begins.
- After editing of all programmes is completed, the both VTRs stop in still playback mode.



Insert, AV Insert Editing and Audio Dubbing

There are 2 types of programme.
To insert only a particular portion:
Set the edit start point and end point on the playback VTR, and the edit start point on the recording VTR.
To insert within fixed limits:
Set the edit start point on the playback VTR, and the edit start and end point on the recording VTR.

- If four points are set, insertion will end when the first end point is reached.

Example: Insert Editing
AV Insert Editing and Audio Dubbing are also performed using the same procedure.

Preparation

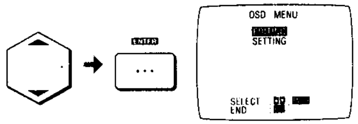
- Make the necessary connections. See page 27.
- Insert a recorded cassette into the playback VTR, and a cassette with an intact erasure prevention tab into the recording VTR.
- Select **PAL/MESECAM** on the recording VTR.
- Confirm that the TV is on.

Operations **On Screen Display**

1

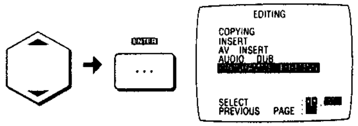
Press **EDIT MENU**.

2


ENTER
OSD MENU
SETTING
SELECT
END

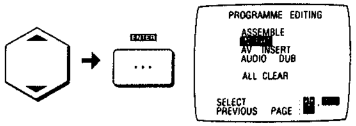
Select **EDITING**.

3


ENTER
EDITING
COPYING
INSERT
AV INSERT
AUDIO DUB
SELECT
PREVIOUS PAGE

Select **PROGRAMME EDITING**.

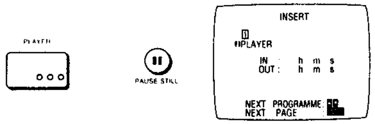
4


ENTER
PROGRAMME EDITING
ASSEMBLE
AV INSERT
AUDIO DUB
ALL CLEAR
SELECT
PREVIOUS PAGE

Select **INSERT**.

Operations **On Screen Display**

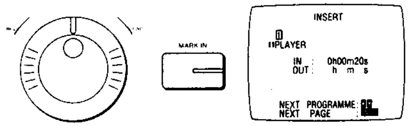
5


PLAYER
PAUSE/STILL
INSERT
PLAYER
IN : h m s
OUT : h m s
NEXT PROGRAMME
NEXT PAGE

Press **PLAYER** and **PAUSE/STILL**.

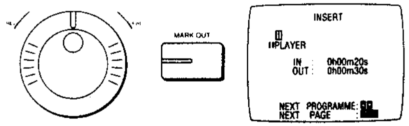
- The picture from the playback VTR appears on the screen.

6


MARK IN
INSERT
PLAYER
IN : 0h00m20s
OUT : h m s
NEXT PROGRAMME
NEXT PAGE

Search for the edit start point on the playback VTR and press **MARK IN**.

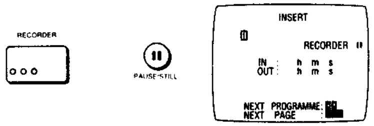
7


MARK OUT
INSERT
PLAYER
IN : 0h00m20s
OUT : 0h00m30s
NEXT PROGRAMME
NEXT PAGE

Search for the edit end point on the playback VTR and press **MARK OUT**.

- This step is not necessary if the end point on the recording VTR has been set.

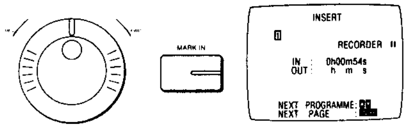
8


RECORDER
PAUSE/STILL
INSERT
RECORDER
IN : h m s
OUT : h m s
NEXT PROGRAMME
NEXT PAGE

Press **RECORDER** and **PAUSE/STILL**.

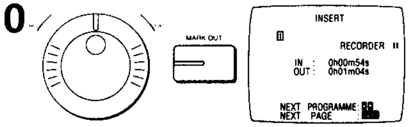
- The picture from the recording VTR appears on the screen.

9


MARK IN
INSERT
RECORDER
IN : 0h00m54s
OUT : h m s
NEXT PROGRAMME
NEXT PAGE

Search for the edit start point on the recording VTR and press **MARK IN**.

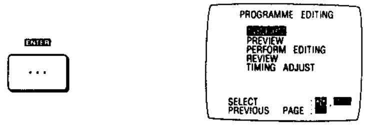
10


MARK OUT
INSERT
RECORDER
IN : 0h00m54s
OUT : 0h01m04s
NEXT PROGRAMME
NEXT PAGE

Search for the edit end point on the recording VTR and press **MARK OUT**.

- This step is not necessary if the end point on the playback VTR has been set.
- If there is more than one programme, select a programme number using ▼ and ▲, and repeat steps **5** to **10**.

11

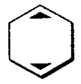

ENTER
PROGRAMME EDITING
PREVIEW
PERFORM EDITING
REVIEW
TIMING ADJUST
SELECT
PREVIOUS PAGE

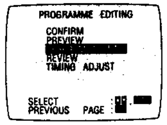
Press **ENTER**.

- The edit start point and the edit end point are memorized.

Operations | **On Screen Display**

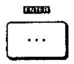
12

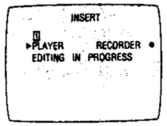



PROGRAMME EDITING
CONFIRM
PREVIEW
PERFORM EDITING
REVIEW
TIMING ADJUST
SELECT
PREVIOUS PAGE

Select **PERFORM EDITING**.
- To see a preview before performing editing, select **PREVIEW**. See page 42.

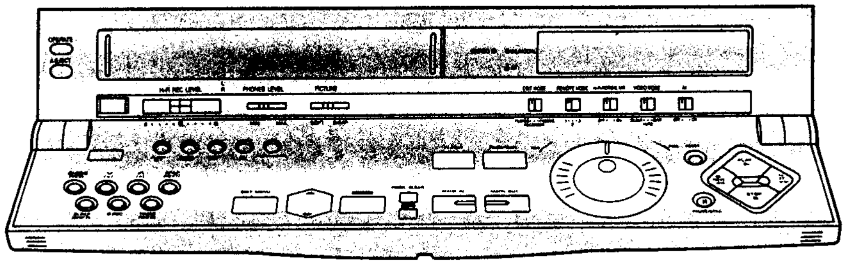
13




INSERT
▸PLAYER RECORDER
EDITING IN PROGRESS

Press **ENTER**.
- Editing begins.
- After editing of all programmes is completed, the both VTRs stop in still playback mode.

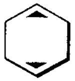
Notes for Programme Editing:
- For the edit start point, use a location which is at least 10 seconds from the beginning of the tape. Otherwise, the programme will not be executed.
- Programme editing can be suspended in mid-execution by pressing **ESC**. As a result, however, the picture immediately after suspending may disappear.
- Programmes are stored even after editing is completed. Unless they are cancelled, programmes are stored even after the power has been turned off.
- Programme editing can not be performed with a movie camera that has a reel counter.

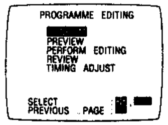


Other Editing Functions

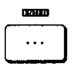
To confirm and Change Editing Programmes

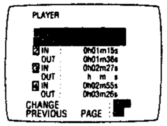
1 Select **CONFIRM** after setting the edit start and end points.



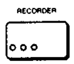

PROGRAMME EDITING
PREVIEW
PERFORM EDITING
REVIEW
TIMING ADJUST
SELECT
PREVIOUS PAGE

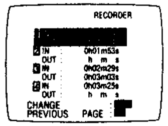
2 Press **ENTER**.
- The programme list for the playback VTR is displayed.



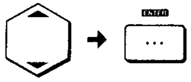

PLAYER
IN 0h01m15s
OUT 0h01m36s
IN 0h02m27s
OUT h m s
IN 0h02m55s
OUT 0h03m26s
CHANGE
PREVIOUS PAGE

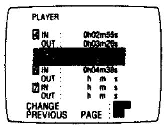
3 Press **RECORDER** to confirm the programmes on the recording VTR.
- Press **PLAYER** to return to the programme list on the playback VTR.



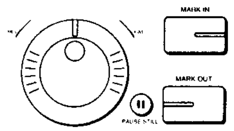

RECORDER
IN 0h01m53s
OUT h m s
IN 0h02m29s
OUT 0h03m03s
IN 0h03m25s
OUT h m s
CHANGE
PREVIOUS PAGE

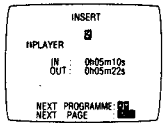
4 Select the programme to be changed.




PLAYER
IN 0h02m55s
OUT 0h03m26s
IN 0h04m38s
OUT h m s
IN h m s
OUT h m s
CHANGE
PREVIOUS PAGE

5 Search for the start or end point to be changed and press **MARK IN** or **MARK OUT**.

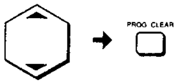

MARK IN
MARK OUT
PAUSE/STILL

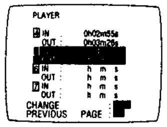

INSERT
PLAYER
IN 0h05m10s
OUT 0h05m22s
NEXT PROGRAMME
NEXT PAGE

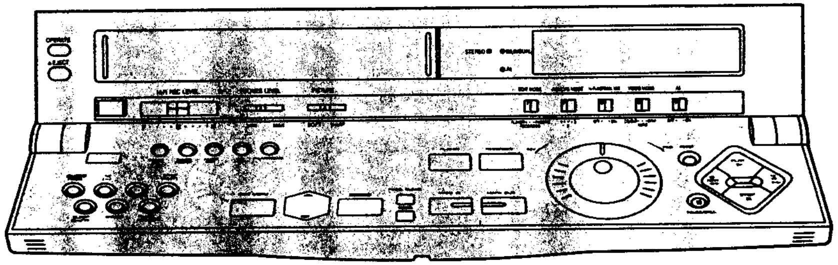
6 Press **ENTER**.

To cancel an Editing Programme

In step **4** above, select the programme to be canceled and press **PROG. CLEAR**.



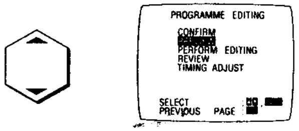

PLAYER
IN 0h02m55s
OUT 0h03m26s
IN h m s
OUT h m s
IN h m s
OUT h m s
CHANGE
PREVIOUS PAGE



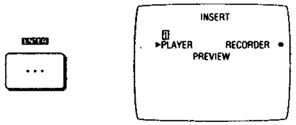
Preview Function

Before performing actual editing, this function allows confirmation of editing operations without recording.

1 Select **PREVIEW** after setting the edit start and end points.


PROGRAMME EDITING
CONFIRM
PREVIEW
PERFORM EDITING
REVIEW
TIMING ADJUST
SELECT
PREVIOUS PAGE

2 Press **ENTER**.
- Preview begins.

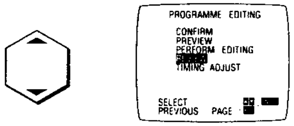

INSERT
▸PLAYER RECORDER ●
PREVIEW

Notes:
- Preview function works only when this VTR is used as the recording VTR.
- Preview function does not work during assemble editing.

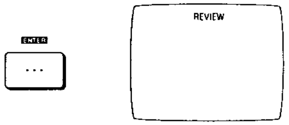
Review Function

After editing has been completed, this function plays back from the edit start point to the edit end point on the recording VTR.

1 Select **REVIEW** after performing editing.


PROGRAMME EDITING
CONFIRM
PREVIEW
PERFORM EDITING
REVIEW
TIMING ADJUST
SELECT
PREVIOUS PAGE

2 Press **ENTER**.
- Review begins.



Edit Timing Adjustment

When performing editing in conjunction with a unit which has a different mechanism, there may be a lag in the edit start point due to a deviation between the time a pause cancellation signal is received by the recording unit and the time recording actually begins.
Edit Timing Adjustment is used to compensate the edit start and end time in light of this start-up time deviation.

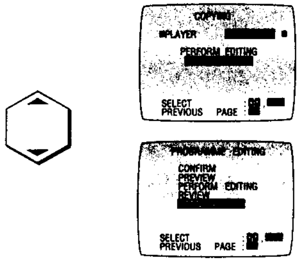
1 Record the second hand on a stopwatch with a movie camera.

2 Insert this recorded cassette into the playback unit, and a cassette with an intact erasure prevention tab into the recording VTR.

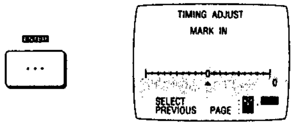
3 Using the point where the second hand reaches zero as the edit start point, perform copying.

4 Play back the copied tape, and check how many seconds had elapsed at the recording start point.
- If timing is correct, recording should begin at exactly zero seconds.

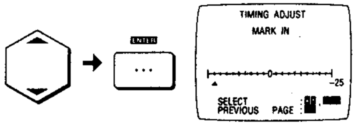
5 Select **TIMING ADJUST** from the screen below.


COPYING
▸PLAYER
PERFORM EDITING
SELECT
PREVIOUS PAGE
PROGRAMME EDITING
CONFIRM
PREVIEW
PERFORM EDITING
REVIEW
SELECT
PREVIOUS PAGE

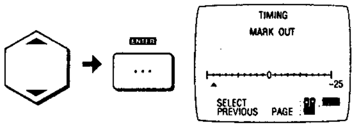
6 Press **ENTER**.


TIMING ADJUST
MARK IN
0
SELECT
PREVIOUS PAGE

7 Adjust the timing for the start point by setting the amount of the discrepancy of the second hand.
- The setting is displayed in frame ($1/25$ of a second) units. Thus if, for example, one second had elapsed, set to −25.


TIMING ADJUST
MARK IN
0
-25
SELECT
PREVIOUS PAGE

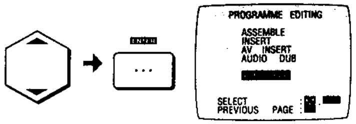
8 Adjust the timing for the end point in the same manner.


TIMING
MARK OUT
0
-25
SELECT
PREVIOUS PAGE

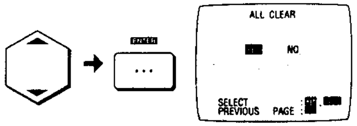
Note:
Edit timing adjustment function only works during programme editing.

To cancel All Editing Programmes

1 Select **ALL CLEAR** from the screen below.


PROGRAMME EDITING
ASSEMBLE
INSERT
AV INSERT
AUDIO DUB
SELECT
PREVIOUS PAGE

2 Select **YES**.
- All programmes will be canceled.


ALL CLEAR
NO
SELECT
PREVIOUS PAGE

Editing when not Using an Edit Cable

To connect a VTR or Movie Camera without an Edit Socket and use This VTR as the Recording VTR

- Connect the AV2 socket or the AUDIO/VIDEO IN (AV3) sockets on this VTR to the playback unit.
- Connect the AV1 socket on this VTR to the TV.
- Select A2 or A3 by pressing ∧ ∨ or **INPUT SELECT** on this VTR.
- Set **EDIT MODE** on this VTR to RECORDER.
- Control is performed by the respective units.

Preparation

- Make the necessary connections.
- Insert a recorded cassette into the playback unit, and a cassette with an intact erasure prevention tab into the recording VTR.
- Select **PAL/MESECAM** on the recording VTR.
- Confirm that the TV is on.

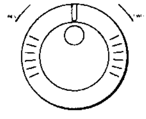
Assembly Editing

Operations

1 Press **PAUSE/STILL** on the recording VTR.

PAUSE STILL

2 Search for the end of the previous recording.



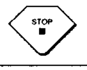
3 Press **REC** to set for the new recording.

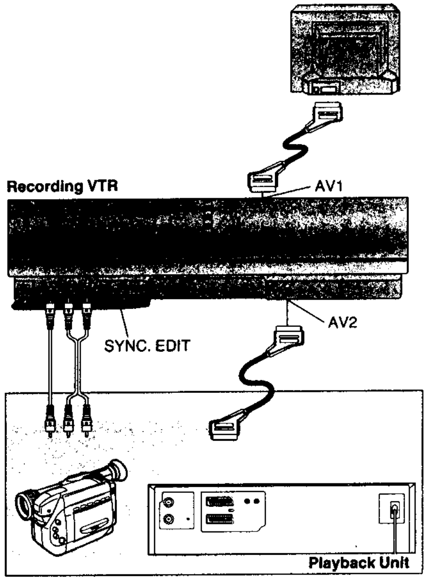
4 Start playback on the playback unit.

5 Press **PAUSE/STILL** again to start the new recording.

PAUSE STILL

6 Press **STOP** to stop recording.

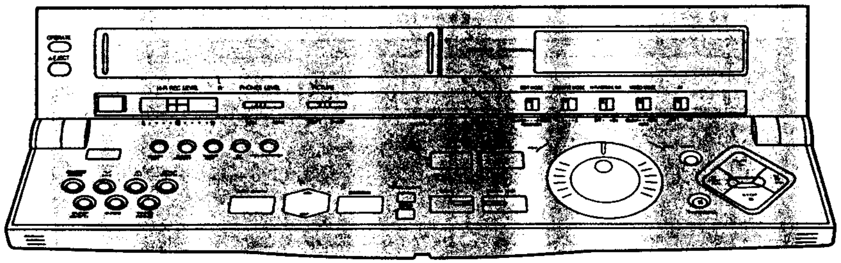



Recording VTR
AV1
AV2
SYNC. EDIT
Playback Unit

Synchronized Editing

By connecting a VTR or movie camera with synchronized editing capability to this VTR using a synchro connection cord (optional), it is possible to synchronize the playback start and stop of the playback unit with the recording start and stop of this VTR.

1. Put the recording VTR into the recording pause mode by pressing **REC** and **PAUSE/STILL**.
2. Put the playback unit into the still playback mode at the point where editing is to begin.
3. Press **PAUSE/STILL** on the recording VTR.
   - The playback unit switches over to the playback mode, and copying begins automatically.

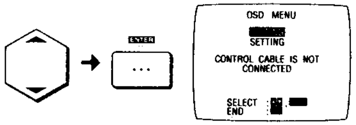


Insert Editing, AV Insert Editing and Audio Dubbing

Operations **On Screen Display**

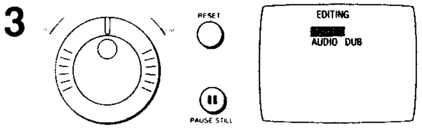
1 Press **EDIT MENU**.

2 Select **EDITING**.

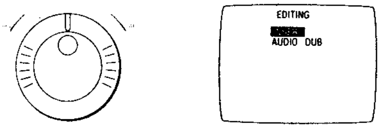

ENTER
OSD MENU
SETTING
CONTROL CABLE IS NOT CONNECTED
SELECT
END

3 Press **PAUSE/STILL** and search for the edit end point, and press **RESET**.

- This step is not required for audio dubbing.

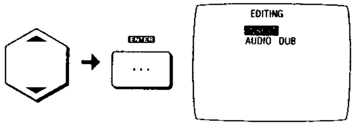

RESET
PAUSE STILL
EDITING
AUDIO DUB

4 Search for the edit start point.


EDITING
AUDIO DUB

5 Select **INSERT** or **AUDIO DUB**.

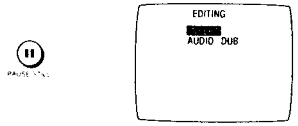
- AV insert editing is selected if both **AUDIO DUB** and **INSERT** are selected.


ENTER
EDITING
AUDIO DUB

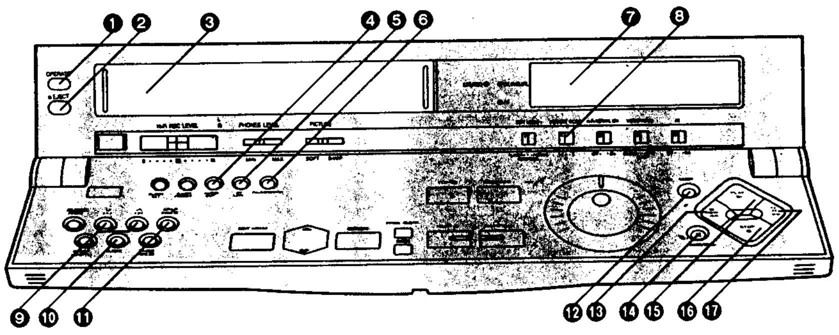
6 Start playback on the playback unit.

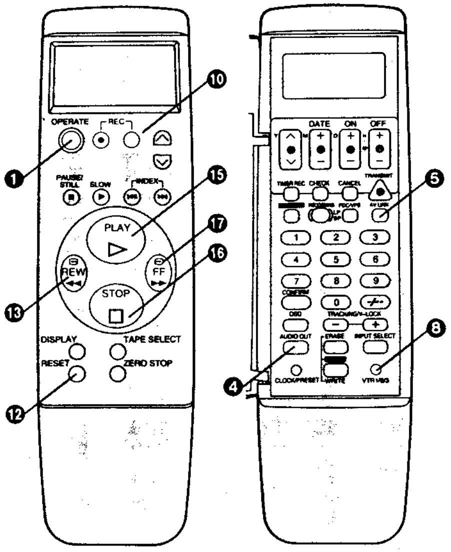
7 Press **PAUSE/STILL**.

- Editing begins.
- Insert and AV insert editing will finish when the counter reaches 0:00.00.
- Press **STOP** to stop audio dubbing.


PAUSE STILL
EDITING
AUDIO DUB

Controls and Connection Sockets





Basic Controls

① **OPERATE**
To turn the VTR on and off.

② **EJECT**
To eject a video cassette.

③ **Cassette Compartment**
Insert a video cassette here.

④ **AUDIO OUT**
To select the desired sound mode.
At the every push of this button, the audio output mode changes as follows.

→Stereo→Left→Right→Normal audio track→

The Left and Right Indicators show which sound mode is selected in the following way.

Stereo: Both the Left and Right Indicators are lit.
Left: The Left Indicator is lit.
Right: The Right Indicator is lit.
Normal: Both the Left and Right Indicators are not lit.

⑤ **AV LINK**
To select the VTR mode or TV mode for AV LINK.

⑥ **PAL/MESECAM**
Set according to the colour TV system used during recording and playback.
When the MESECAM Indicator is lit, the MESECAM system is selected.

⑦ **Display**

⑧ **REMOTE MODE (VTR1/2/3)**
VTR1: Set to this position on both the VTR and remote controller for normal use with one VTR.
VTR2: Set to this position when using two Panasonic VTRs.
VTR3: Set to this position when using three Panasonic VTRs.
This allows the remote controller to be set for operating VTR1, VTR2 or VTR3.

⑨ ∨ (−) ∧ (+)
To select the required programme position (TV station).
To set the clock and timer recording.

⑩ **REC**
To start a recording.

⑪ **SP/LP (NEXT)**
To select the tape speed required for recording.
SP gives the best picture quality.
LP gives the longest recording time.
To proceed to the next item during setting procedure.

⑫ **RESET**
To reset the tape counter (elapsed time) to "0:00.00".
- The tape counter is automatically reset to "0:00.00" when a video cassette is inserted.

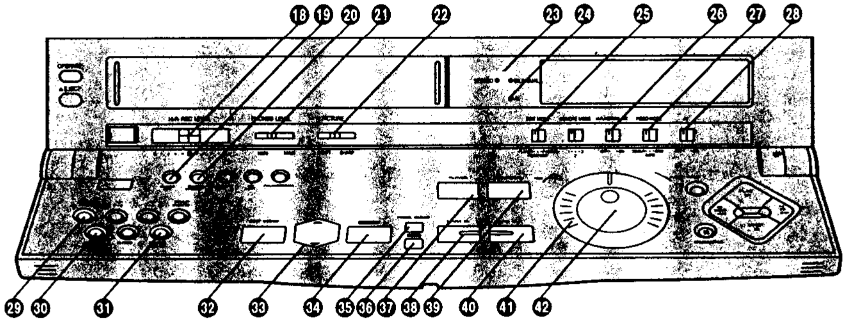
⑬ **REW (REWIND)**
In the stop mode: To rewind the tape.
In the playback mode: To search backward.
In the rewind mode: To obtain high speed picture.
"◁◁" is lit.

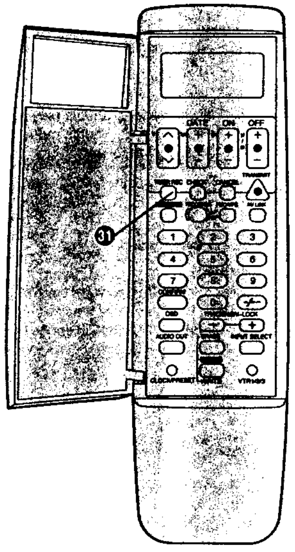
⑭ **PAUSE/STILL**
In the stop mode: Still picture (Jog/Shuttle mode)
During playback: Still picture (Jog/Shuttle mode)
During recording: To interrupt recording

⑮ **PLAY**
To start playback. "▷" is lit.

⑯ **STOP**
To stop any playback or recording.

⑰ **FF (FAST FORWARD)**
In the stop mode: To fast forward the tape.
In the playback mode: To search forward.
In the fast forward mode: To obtain high speed picture.
"▷▷" is lit.





Advanced Controls

⑱ **Hi-Fi REC LEVEL**
To adjust the recording level to peak at +4 dB on the recording level indicator.

⑲ **CLOCK SET**
To set the time.

⑳ **TUNER PRESET**
To initiate TV station settings for the tuner.

㉑ **PHONES LEVEL**
For adjusting the volume level of connected stereo headphones.

㉒ **PICTURE**
To make picture sharper (SHARP) or softer (SOFT).

㉓ **STEREO and BILINGUAL Indicators**
When receiving a TV programme, the type of sound system in which it is broadcast is automatically indicated.

㉔ **AI Indicator**
Lights up when the AI function is on.

㉕ **EDIT MODE**
PLAYER: When this VTR is used as the playback VTR during editing operations.
RECORDER: When this VTR is used as the recording VTR during editing operations.
- Normally set at this position.

PASSIVE: When operating this VTR using another VTR or an editing controller.
- The picture quality best suited for editing is selected.
- When setting at this position, operation will not be possible and the On Screen Display will not appear.

㉖ **HI-FI/NORMAL MIX**
OFF: Normally set at this position to reproduce the better sound available from the Hi-Fi track.
ON: Both sound tracks (the Hi-Fi sound track and the normal sound track) are played back mixed together. Use this setting when playing back a cassette tape which has been insert edited or audio dubbed.

㉗ **VIDEO MODE**
COLOUR: When performing recording and playback in colour.
AUTO: The VTR automatically distinguishes between colour and black-and-white during recording and playback.
B/W: When performing recording and playback in black-and-white.

㉘ **AI**
ON: Using the AI function, recording and playback are performed in the state which achieves optimum picture quality in light of characteristics of a tape.
- The picture sharpness cannot be adjusted in this setting.

OFF: Turns off the AI function.

㉙ **CHECK/PROG**
To select a timer programme number.
"1, 2, 3... or 8" is lit.
To display details of preset timer recording.

㉚ **SLEEP (SHIFT)**
To set the time to turn off the VTR automatically.
To blank unoccupied programme position.

㉛ **TIMER REC**
To turn the timer recording function on and off.
⏲ is lit or not lit.
Once Operating timer recording function, the normal VTR operation is not possible unless this button is set to off.

㉜ **EDIT MENU**
To perform editing operations.

㉝ **▲▼**
To make selections from On Screen Display.

㉞ **ENTER**
To make selections from On Screen Display.

㉟ **PROG. CLEAR**
To cancel an editing programme.

㊱ **ESC**
To return to the previous page on the screen.
To stop editing.

㊲ **PLAYER**
To operate the playback VTR.

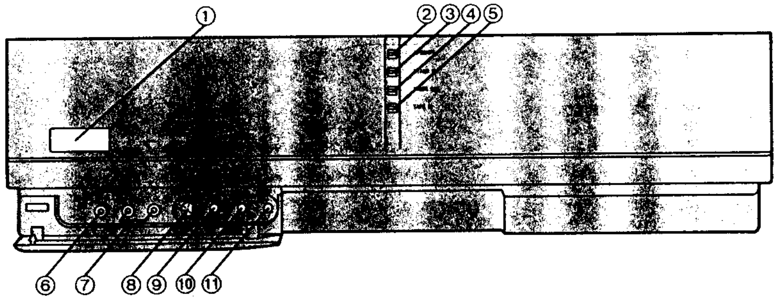
㊳ **MARK IN**
To set the edit start point.

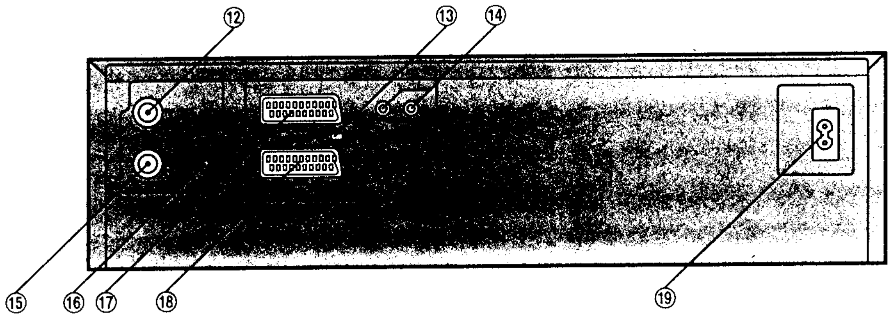
㊴ **RECORDER**
To operate the recording VTR.

㊵ **MARK OUT**
To set the edit end point.

㊶ **Shuttle Ring**
To adjust playback speed backward or forward.

㊷ **Jog Dial**
To locate any desired frame with utmost precision.





① **Infrared Remote Control Receiver Window**

② **OPERATE Indicator**
Lights up when the VTR is turned on.

③ **STAND BY Indicator**
Lights up when the AC mains lead is connected and the VTR is turned off.

④ **TIMER REC Indicator**
Lights up when the timer recording function is on.

⑤ **TAPE IN Indicator**
Lights up when a cassette is inserted.

⑥ **VIDEO IN (AV3)**
To connect the video cable to a movie camera or to another VTR.

⑦ **AUDIO IN (AV3)**
To connect the audio cable to a movie camera or to another VTR.

⑧ **EDIT**
To connect a movie camera or another VTR equipped with an edit socket or an editing controller.

⑨ **SYNC. EDIT**
To connect a movie camera or another VTR equipped with synchronized editing capability.

⑩ **MIC**
To connect a microphone for recording. Once connected, this socket has priority.

⑪ **PHONES**
To connect stereo headphones.

⑫ **RF OUT**
To connect to the aerial terminal on a TV set.

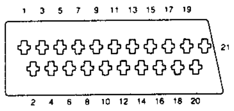
⑬ **TEST SIGNAL**
The test signal is transmitted on channel 36 and AV1.

⑭ **AUDIO OUT**
To connect the sound to a stereo audio system.

⑮ **RF IN**
To connect to the external aerial.

⑯ **CH ADJ.**
To adjust the RF transmitting channel 32~40.

⑰ **AV1**
This 21-pin scart terminal carries input and output signals for both picture and sound. TV sets equipped with a similar socket can be connected here.
This is also called Scart
Peritel
Euro Connector
Euro AV

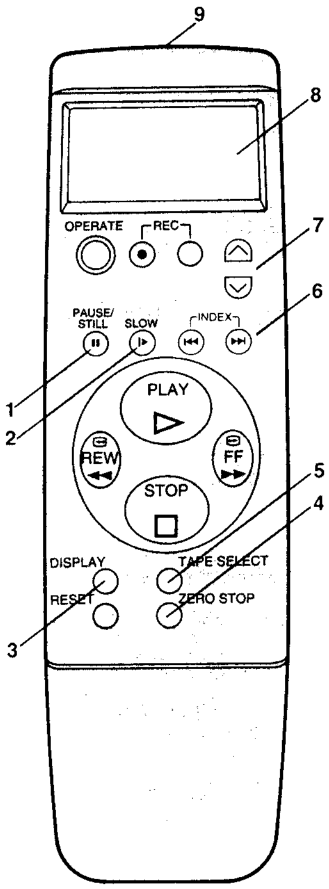


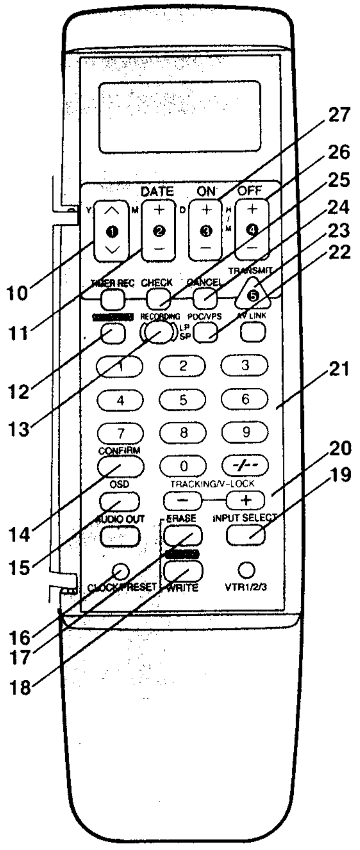
1 AUDIO OUTPUT CH2 (R)
2 AUDIO INPUT CH2 (R)
3 AUDIO OUTPUT CH1 (L)
4 AUDIO GND
5 BLUE GND
6 AUDIO INPUT CH1 (L)
7 BLUE
8 SWITCHING VOLTAGE
9 GREEN GND
10 No connection
11 GREEN
12 No connection
13 RED GND
14 BRANKING GND
15 RED
16 BLANKING
17 VIDEO OUTPUT GND
18 VIDEO INPUT GND
19 VIDEO OUTPUT
20 VIDEO INPUT
21 GND

⑱ **AV2**
To connect to a decoder or another VTR.

⑲ **AC IN~**
To connect to the main power supply.

Infra-red Remote Controller


9
8
OPERATE
REC
7
6
PAUSE/ STILL
SLOW
INDEX
PLAY
REW
FF
STOP
DISPLAY
RESET
TAPE SELECT
ZERO STOP
1
2
3
4
5


DATE
ON
OFF
Y
M
D
H/M
TIMER REC
CHECK
CANCEL
TRANSMIT
RECORDING
LP
SP
PDC/VPS
AV LINK
1
2
3
4
5
6
7
8
9
0
-/--
CONFIRM
OSD
TRACKING/V-LOCK
AUDIO OUT
ERASE
INPUT SELECT
CLOCK/PRESET
WRITE
VTR1/2/3
10
11
12
13
14
15
16
17
18
27
26
25
24
23
22
21
20
19

1 PAUSE/STILL
During playback: Still picture
During recording: To interrupt recording

2 SLOW
To activate slow playback.

3 DISPLAY
To change the indication on the VTR Display.

→Clock→Counter→Remaining Tape Time→

4 ZERO STOP
For the zero stop function.

5 TAPE SELECT
To set the cassette tape length in order to obtain correct indication of the remaining tape time.
E195: For E30, -60, -80, -120, -180 and -195 tapes
E240: For E240 tape
E260: For E260 and -300 tapes

6 INDEX
For the index search function.

7 ∨ ∧
To select the required programme position (TV station).

8 Display

9 Infra-red Transmitter
The programming data are transmitted from here to the VTR.

10 ∧ ∨ (Y)
- To programme a timer recording.
- To set the clock.
- To Preset the TV stations.

11 DATE (M)
- To programme a timer recording.
- To set the clock.

12 SHOWVIEW
For the ShowView programming.

13 RECORDING SP/LP
To select the tape speed desired for recording.

14 CONFIRM
To convert the data of a ShowView number.

15 OSD
For the On Screen Display Function.

16 CLOCK/PRESET
- To set the clock.
- To preset the TV stations.

17 ERASE
To erase Index Signals.

18 WRITE
To write Index Signals.

19 INPUT SELECT
To select the "A1", "A2" or "A3" external recording source.

20 TRACKING/V-LOCK
For manual tracking adjustment
The + and – buttons are used to adjust the tracking when, for example, noise bars on the picture are better removed manually than by the automatic digital tracking control. After making a manual adjustment, press both buttons together to return to automatic digital tracking control.

For slow tracking adjustment
When noise bars appear during Still, Still Advance or Slow playback, switch over to slow playback and adjust with the "+" or "–" Button to reduce the noise bars.

For vertical locking adjustment
Use the + and – buttons to minimize any vertical jitter during still-picture playback.

21 Number Buttons
- To select the programme positions.

9: 9

19: -/-- → 1 → 9

- To enter a ShowView number.

22 PDC/VPS
To turn the PDC/VPS function on and off.

23 TRANSMIT
To transmit the data that has been set on the remote controller to the VTR.

24 CANCEL
To cancel timer programmes.

25 CHECK
To check timer programmes.

26 OFF (H/M)
- To programme a timer recording.
- To set the clock.
- To preset the TV stations.

27 ON (D)
- To programme a timer recording.
- To set the clock.

SECTION 2
ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY METHOD

2-1-1. DISASSEMBLY FLOW CHART

This flow chart indicates disassembly steps of the cabinet parts and the circuit boards in order to find the necessary items for servicing.
When reassembling , perform the steps in the reverse order.

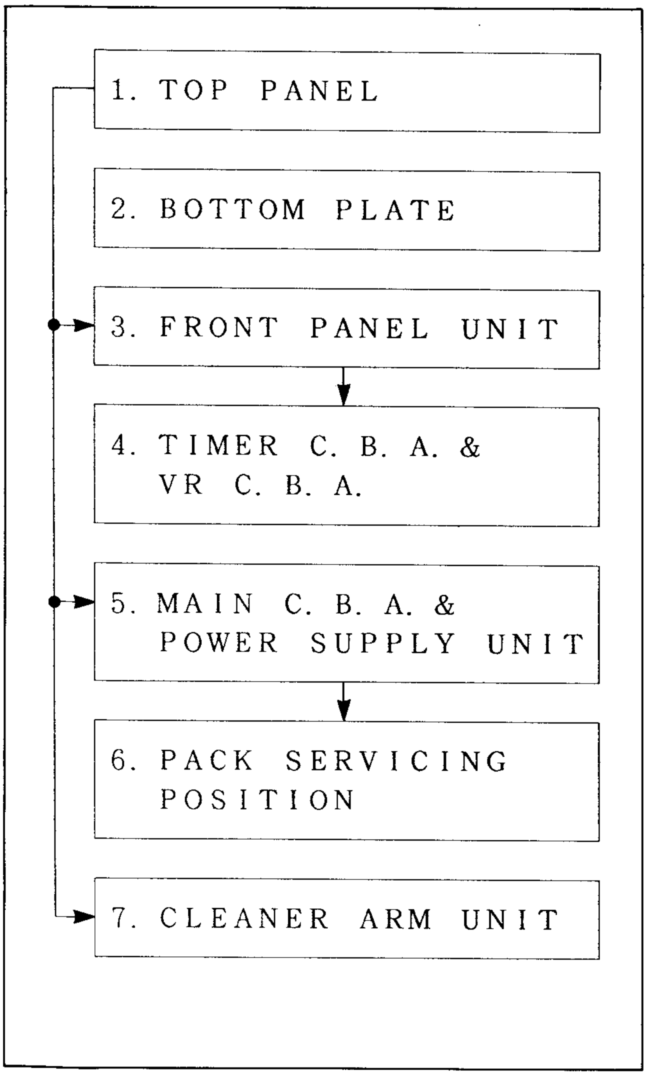

1. TOP PANEL
2. BOTTOM PLATE
3. FRONT PANEL UNIT
4. TIMER C. B. A. & VR C. B. A.
5. MAIN C. B. A. & POWER SUPPLY UNIT
6. PACK SERVICING POSITION
7. CLEANER ARM UNIT

Fig. D1

2-1-2. DETAIL OF DISASSEMBLY METHOD

1. REMOVAL OF THE TOP PANEL

Remove ----- 4 Screws(A)

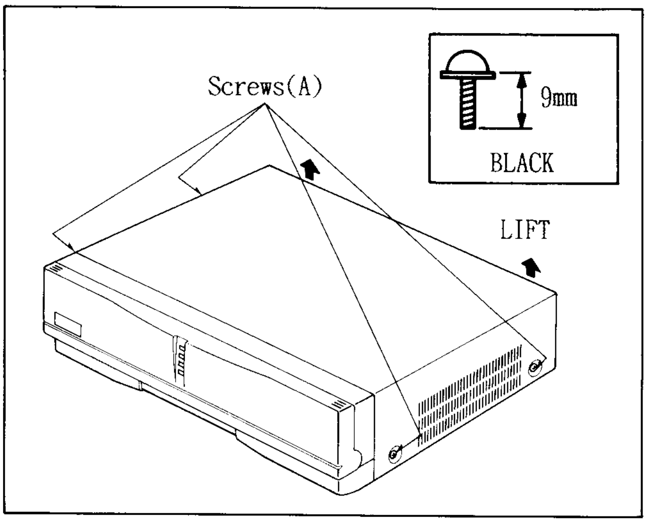

Screws(A)
9mm
BLACK
LIFT

Fig. D2

2. REMOVAL OF THE BOTTOM PLATE

Remove ----- 6 Screws(B)

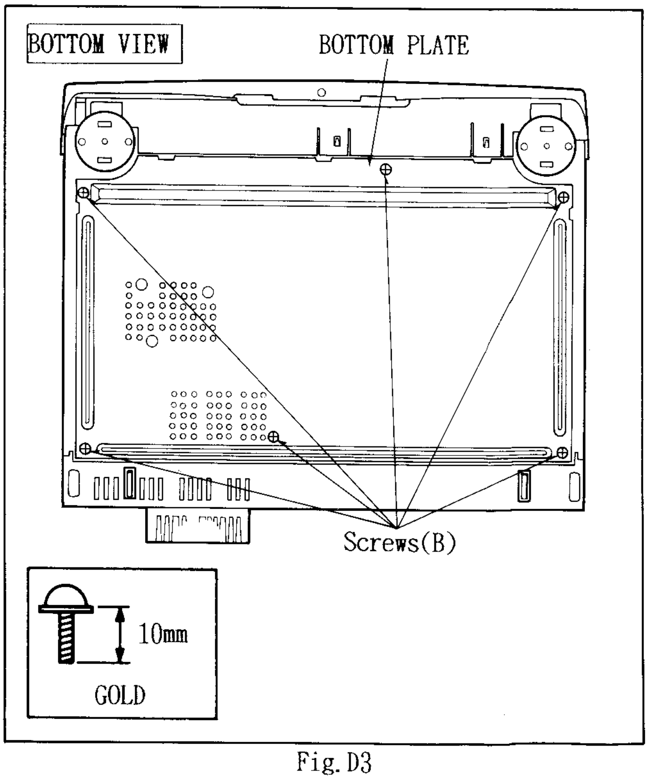

BOTTOM VIEW
BOTTOM PLATE
Screws(B)
10mm
GOLD

Fig. D3

3. REMOVAL OF THE FRONT PANEL UNIT

Remove ---- Screws(C)
Unlock ---- 8 Tabs(D)

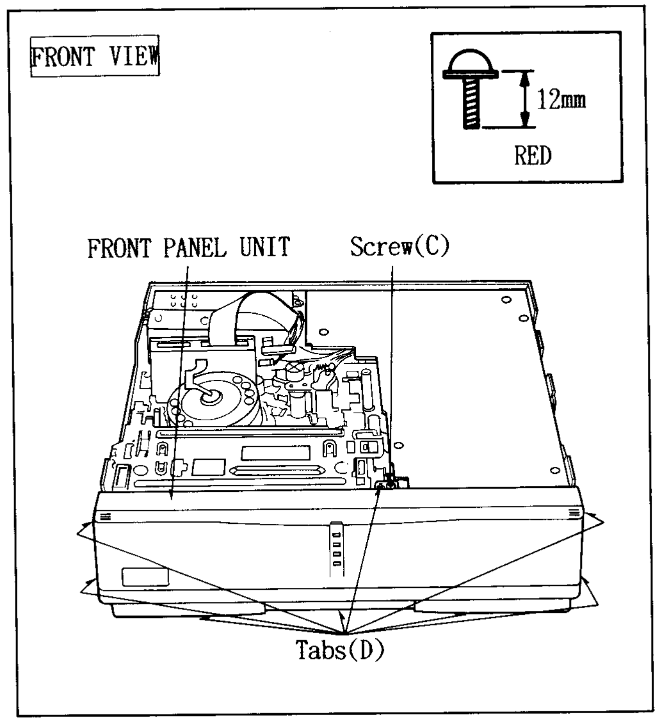

FRONT VIEW
12mm
RED
FRONT PANEL UNIT
Screw(C)
Tabs(D)

Fig. D4

4. REMOVAL OF THE TIMER C.B.A. & THE VR C.B.A.

Unlock ---- 9 Tabs(F)

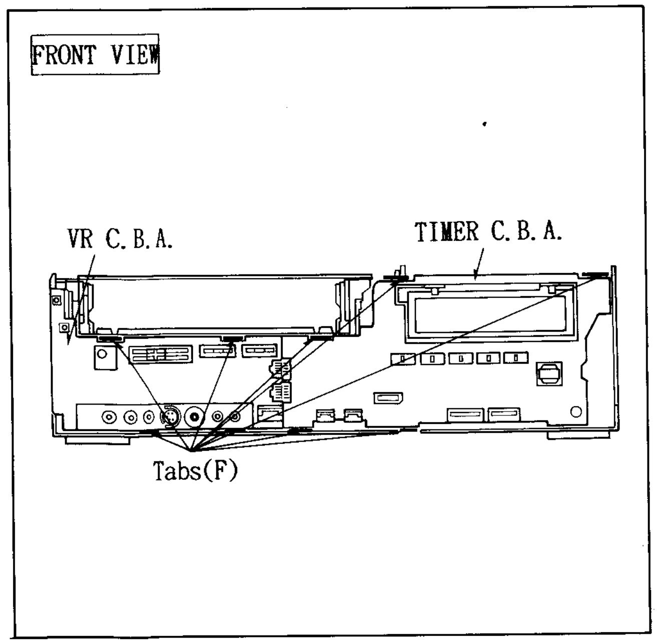

FRONT VIEW
VR C.B.A.
TIMER C.B.A.
Tabs(F)

Fig. D5

5. REMOVAL OF THE MAIN C.B.A. & THE POWER SUPPLY UNIT

REMOVAL OF THE MAIN C.B.A.

Remove ---- 3 Screws(G)
Remove ---- 2 Screws(H)
Unlock ---- Tab(I)

REMOVAL OF THE POWER SUPPLY UNIT

Remove ---- 2 Screws(J)
Remove ---- Screws(K)
Unlock ---- 2 Screws(L) and The HEAT SINK COVER
Remove ---- Screw (M) and The HEAT SINK

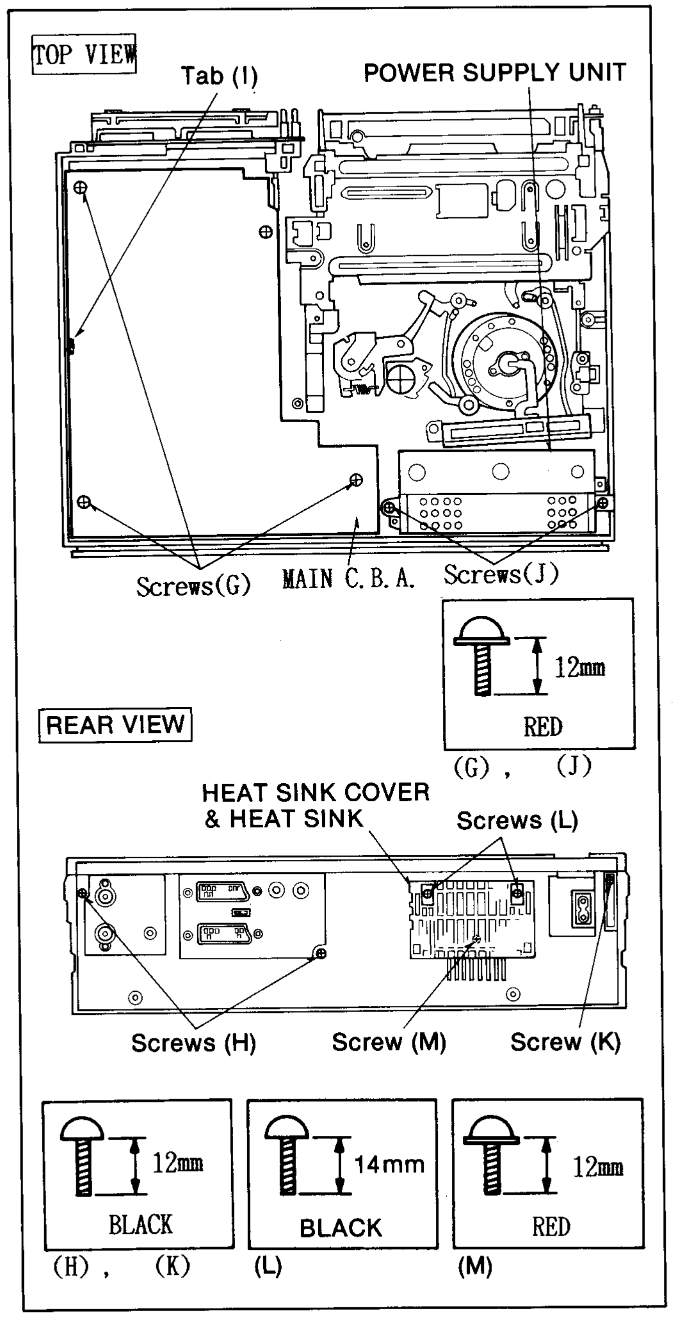

TOP VIEW
Tab (I)
POWER SUPPLY UNIT
Screws(G)
MAIN C.B.A.
Screws(J)
12mm
RED
(G), (J)
REAR VIEW
HEAT SINK COVER
& HEAT SINK
Screws (L)
Screws (H)
Screw (M)
Screw (K)
12mm
BLACK
(H), (K)
14mm
BLACK
(L)
12mm
RED
(M)

Fig. D6

6. PACK SERVICING POSITION

CAUTION:
Confirm the isolation between Mechanical Chassis and Main C.B.A. before connecting Main AC.

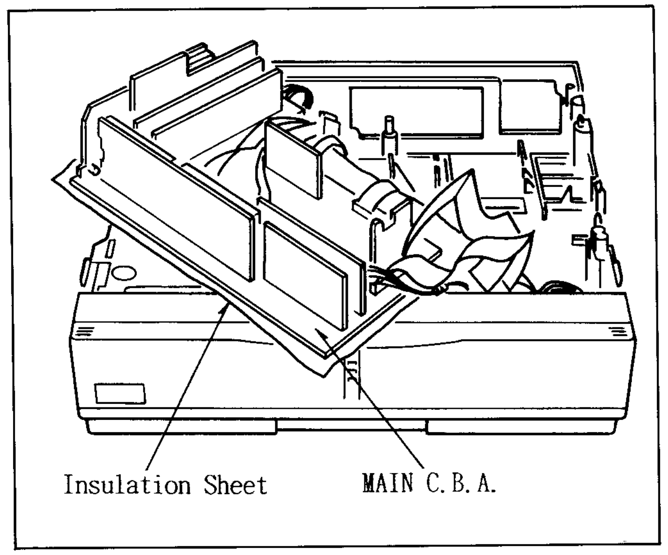

Insulation Sheet
MAIN C.B.A.

Fig. D7

7. REMOVAL OF THE CLEANER ARM UNIT

1. Unlock the locking portion(N).
2. Pull up the Cleaner Arm Unit.

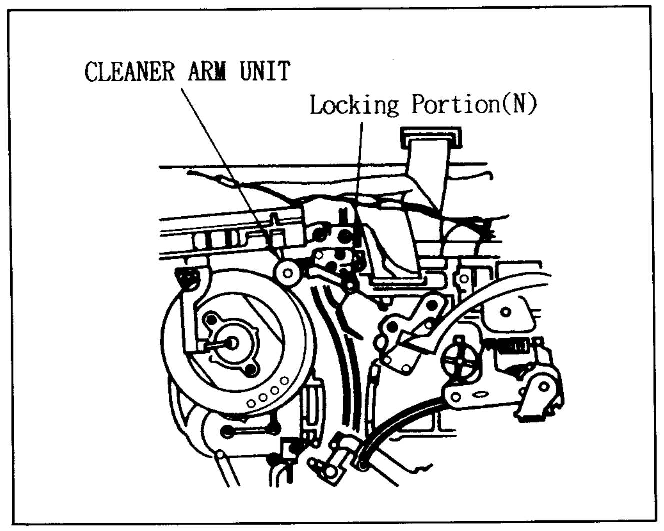

CLEANER ARM UNIT
Locking Portion(N)

Fig. D8

2-2. MECHANICAL ADJUSTMENT PROCEDURES

The mechanical chassis of this model is the K Mechanical Chassis.
Therefore refer to the Service Manual for K Mechanical Chassis. (order No. VRD9307M131)

CAUTIONS:

To make a Adjustment Mode for Tape interchangeability, connect a Jumper wire which has been cut as shown in Fig. M1.
(Auto Tracking is turned off)
After finishing the adjustment, disconnect the jumper wire.

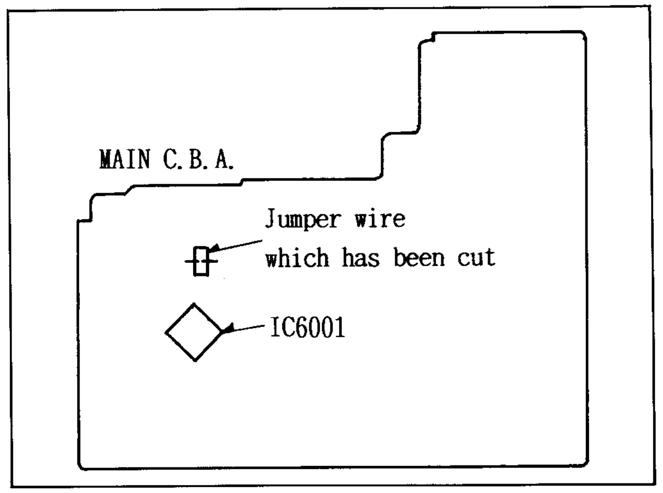

MAIN C.B.A.
Jumper wire
which has been cut
IC6001

Fig. M1

2-3. DISASSEMBLY PROCEDURES OF MECHANISM

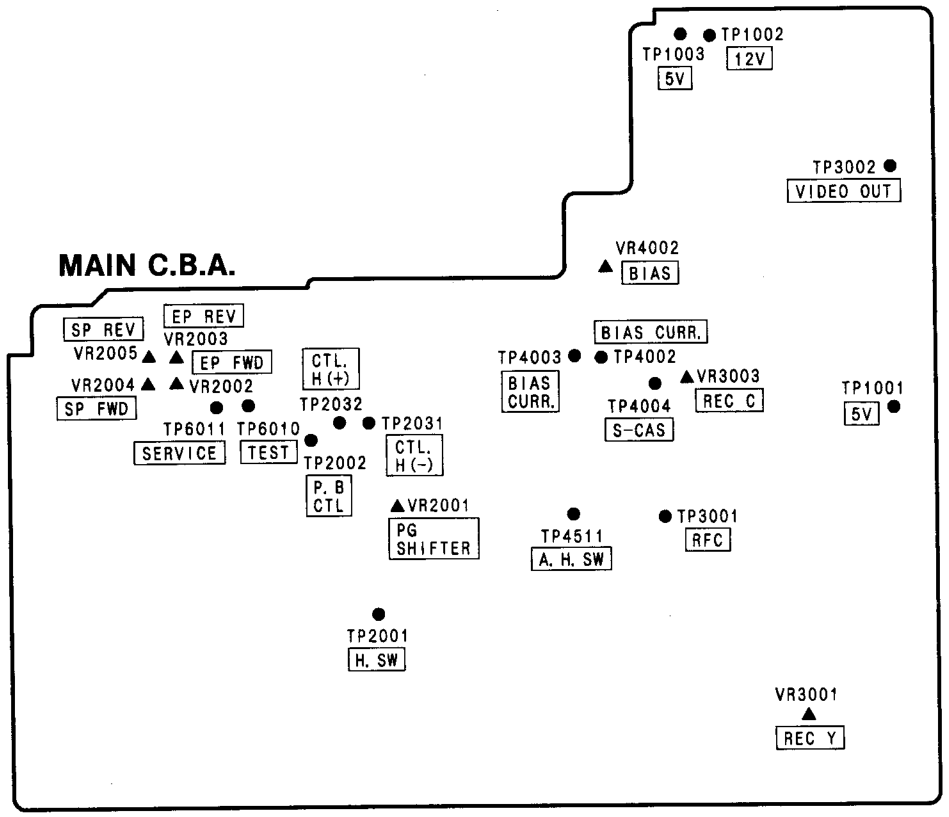
The mechanical chassis of this model is the K Mechanical Chassis.
Therefore refer to the Service Manual for K Mechanical Chassis. (Order No. VRD9307M131)

2-4. ASSEMBLY PROCEDURES OF MECHANISM

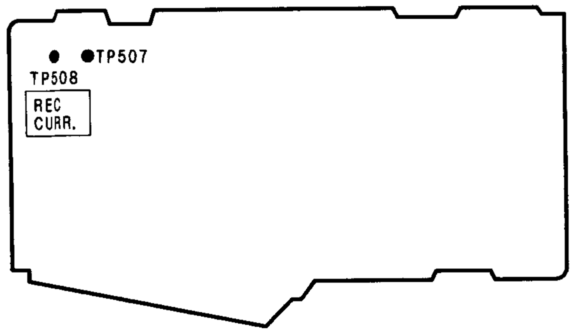
The mechanical chassis of this model is the K Mechanical Chassis.
Therefore refer to the Service Manual for K Mechanical Chassis. (Order No. VRD9307M131)

LOCATION OF TEST POINTS & CONTROLS

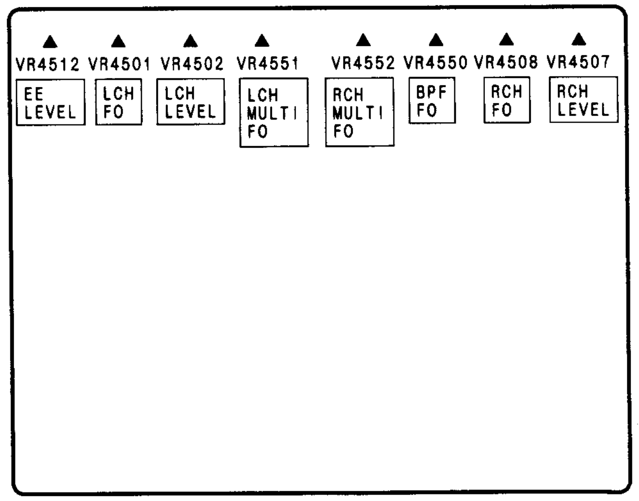
MAIN C.B.A.


TP1003
5V
TP1002
12V
TP3002
VIDEO OUT
VR4002
BIAS
SP REV
EP REV
VR2003
VR2005
EP FWD
VR2004
VR2002
SP FWD
TP6011
TP6010
SERVICE
TEST
CTL.
H(+)
TP2032
TP2031
TP2002
CTL.
H(-)
P. B
CTL
TP4003
BIAS
CURR.
BIAS CURR.
TP4002
VR3003
REC C
TP4004
S-CAS
TP1001
5V
VR2001
PG
SHIFTER
TP4511
A. H. SW
TP3001
RFC
TP2001
H. SW
VR3001
REC Y

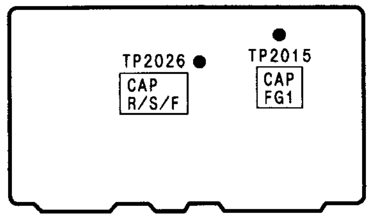
HEAD AMP C.B.A.


TP507
TP508
REC
CURR.

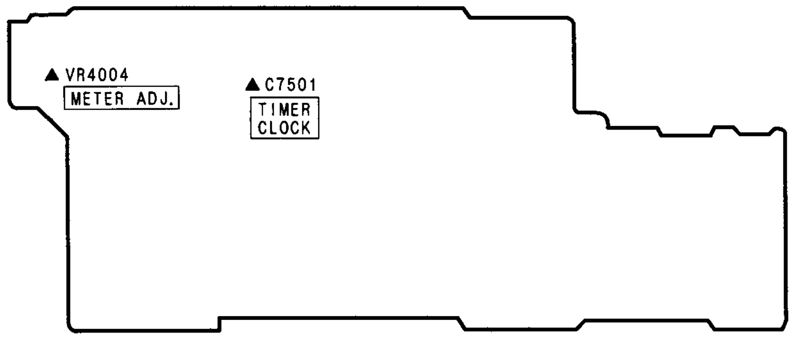
Hi-Fi AUDIO PACK C.B.A.


VR4512
EE
LEVEL
VR4501
LCH
FO
VR4502
LCH
LEVEL
VR4551
LCH
MULTI
FO
VR4552
RCH
MULTI
FO
VR4550
BPF
FO
VR4508
RCH
FO
VR4507
RCH
LEVEL

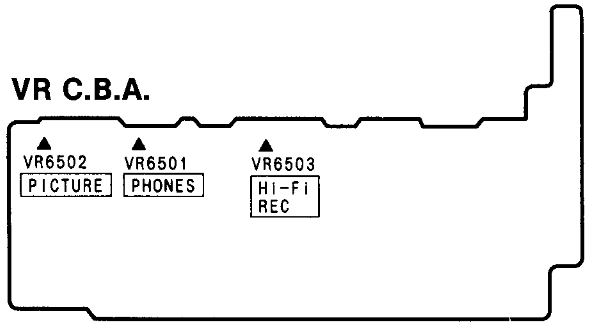
CAPSTAN DRIVE PACK C.B.A.


TP2026
CAP
R/S/F
TP2015
CAP
FG1

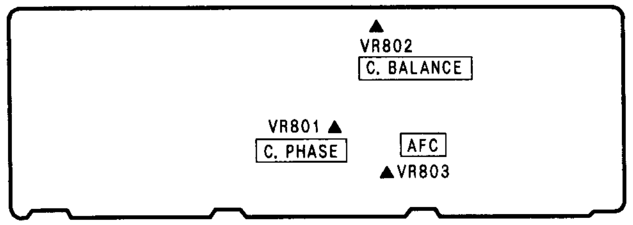
TIMER C.B.A.


VR4004
METER ADJ.
C7501
TIMER
CLOCK

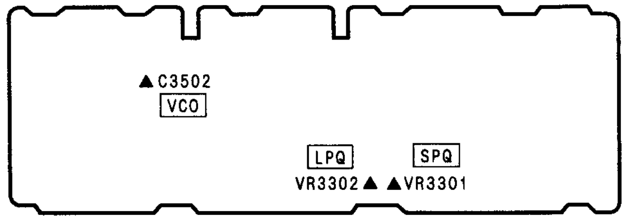
VR C.B.A.


VR6502
PICTURE
VR6501
PHONES
VR6503
HI-Fi
REC

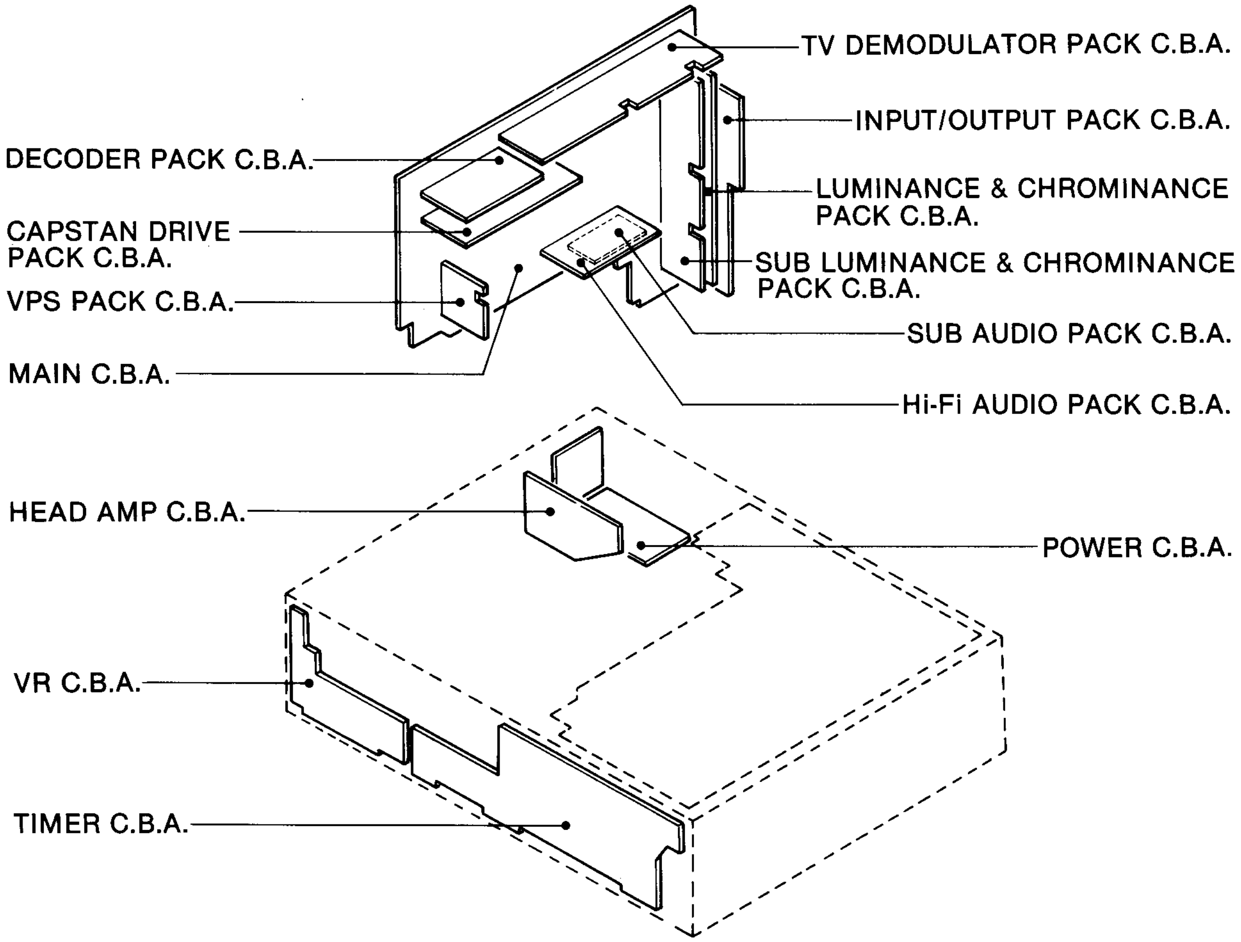
LUMINANCE & CHROMINANCE PACK C.B.A.


VR802
C. BALANCE
VR801
C. PHASE
AFC
VR803

SUB LUMINANCE & CHROMINANCE PACK C.B.A.


C3502
VCO
LPQ
SPQ
VR3302
VR3301

CIRCUIT BOARD LAYOUT


TV DEMODULATOR PACK C.B.A.
INPUT/OUTPUT PACK C.B.A.
DECODER PACK C.B.A.
LUMINANCE & CHROMINANCE PACK C.B.A.
CAPSTAN DRIVE PACK C.B.A.
SUB LUMINANCE & CHROMINANCE PACK C.B.A.
VPS PACK C.B.A.
SUB AUDIO PACK C.B.A.
MAIN C.B.A.
Hi-Fi AUDIO PACK C.B.A.
HEAD AMP C.B.A.
POWER C.B.A.
VR C.B.A.
TIMER C.B.A.

2-5. ELECTRICAL ADJUSTMENT PROCEDURES

This section provides complete adjustment procedures required for electric circuits of VHS Video Cassette Recorders.

2-5-1. TEST EQUIPMENT

To perform electrical adjustments following equipment is required.

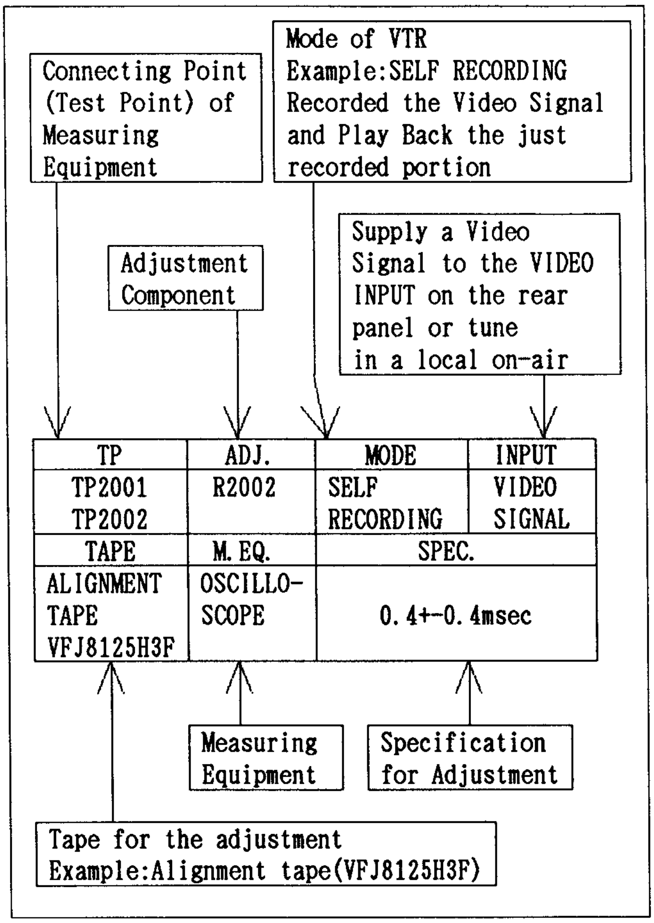
1. Dual-Trace Oscilloscope. (More than 35 MHz)
    Voltage Range:0.005-5V/div
    Frequency Range:DC-35MHz
    Probes:10:1 OR 1:1
2. Frequency Counter.
    Frequency Range:0-10MHz
    Probes:1:1
3. Universal Counter.
4. Vacuum Tube Volt Meter. (V.T.V.M.)
5. Video Sweep Generator.
6. Sine Wave Generator.
7. Video Pattern Generator.
8. VHS Alignment Tape. (VFJ8125H3F)
9. VHS Blank Tape.
10. Monitor.
11. Plastic Tip Driver.
12. DC Power Supply.

2-5-2. PREPARATION

During adjustment, set each selector as follows: when no indication in the procedure.

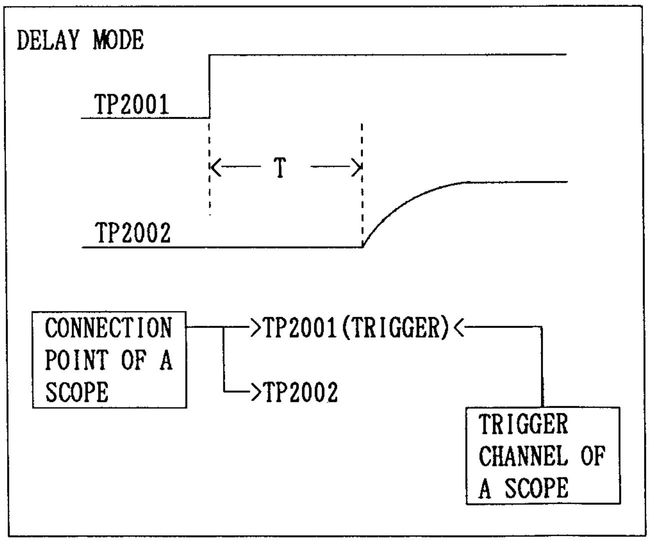
TEST SIGNAL SW (REAR)...........OFF
VIDEO MODE SW...................AUTO
AI SW...........................ON
EDIT MODE SW....................RECORDER
HiFi/NORMAL MIX SW.............OFF
PICTURE VR.....................CENTRE FIX
HiFi REC LEVEL VR..............CENTRE FIX

2-5-3. HOW TO READ ADJUSTMENT PROCEDURES



Connecting Point (Test Point) of Measuring Equipment
Mode of VTR Example:SELF RECORDING Recorded the Video Signal and Play Back the just recorded portion
Adjustment Component
Supply a Video Signal to the VIDEO INPUT on the rear panel or tune in a local on-air
TP
TP2001
TP2002
ADJ.
R2002
MODE
SELF RECORDING
INPUT
VIDEO SIGNAL
TAPE
ALIGNMENT TAPE VFJ8125H3F
M.EQ.
OSCILLO-SCOPE
SPEC.
0.4+-0.4msec
Measuring Equipment
Specification for Adjustment
Tape for the adjustment Example:Alignment tape(VFJ8125H3F)

Fig. E1



DELAY MODE
TP2001
T
TP2002
CONNECTION POINT OF A SCOPE
>TP2001(TRIGGER)<
>TP2002
TRIGGER CHANNEL OF A SCOPE

Fig. E2

SERVO SECTION

2-5-4. PG SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2001 (TEST LAND) VIDEO OUT	VR2001	PLAYBACK	
TAPE	M. EQ.	SPEC	
ALIGNMENT TAPE VFJ8125H3F	OSCILLO- SCOPE	7.0+-0.5(H)	

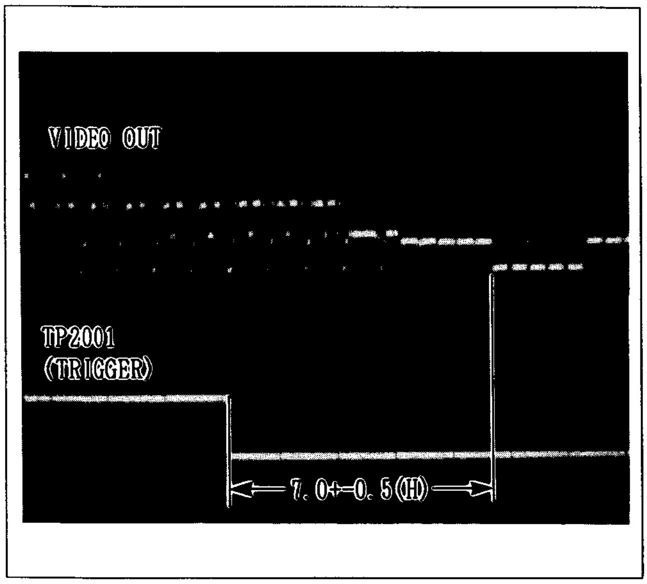


Fig. E3

2-5-5. SLOW TRACKING ADJUSTMENT

TP	ADJ.	MODE	INPUT
MONITOR SCREEN	VR2004 (SP) VR2002 (LP)	(SELF RECORD) SLOW	CCIR PATTERN
TAPE	M. EQ.	SPEC	
BLANK TAPE	MONITOR TV	Noise bar on the monitor screen is minimized. (Shown in Fig. E5)	

Note:1. Before this adjustment, connect a jumper which has been cut as shown in Fig. E4.
2. After this adjustment, disconnect a jummper wire.

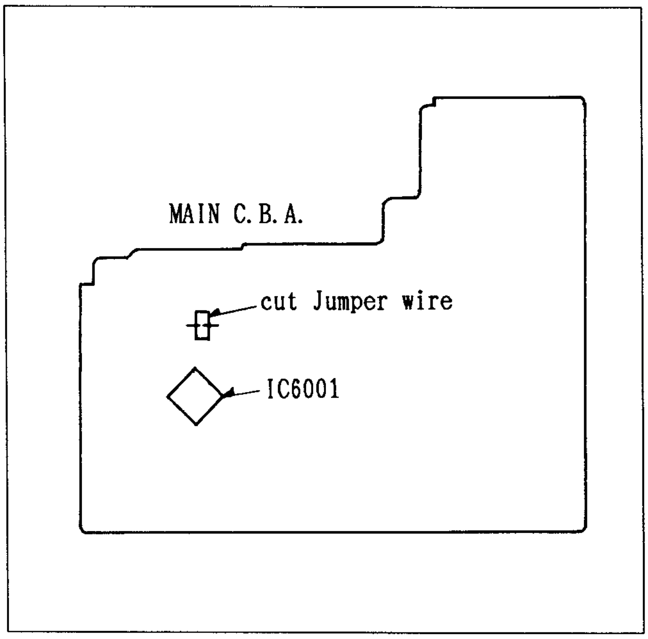


Fig. E4

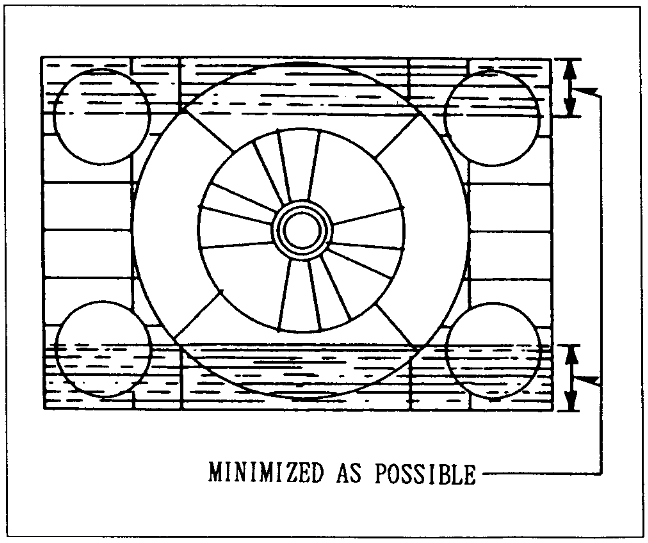


Fig. E5

2-5-6. REVERSE SLOW TRACKING ADJUSTMENT

TP	ADJ.	MODE	INPUT
MONITOR SCREEN	VR2005 (SP) VR2003 (LP)	(SELF RECORD) REV SLOW	CCIR PATTERN
TAPE	**M. EQ.**	**SPEC**	
BLANK TAPE	MONITOR TV	Noise bar on the monitor screen is minimized. (Shown in Fig. E5)	

REV SLOW:REVERSE SLOW

Note:1. Before this adjustment, connect a jumper which has been cut as shown in Fig. E4.
2. After this adjustment, disconnect a jummper wire.

LUMINANCE & CHROMINANCE SECTION

2-5-7. ARTIFICIAL PAL AFC FREE RUN ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL803	VR803	STOP	SINEWAVE (8KHz, -10dB) (VIDEO IN)
TAPE	**M. EQ.**	**SPEC**	
	FREQUENCY COUNTER, SINEWAVE GENERATOR	15735+-100(Hz)	

Note:1. Supply +5V DC to TL802.
2. Turn VR803 to maximum frequency, then adjust VR803 until the specification.

2-5-8. RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP507(HOT) TP508(GND)	VR3001(Y) VR3003(C)	SP RECORDING	PAL COLOUR BAR
TAPE	**M. EQ.**	**SPEC**	
BLANK TAPE	OSCILLO-SCOPE	Y=130+-5(mVp-p) C=32+-2 (mVp-p)	

Note:1. First, set the AI SW to OFF position.
2. Next, adjust the Luminance level so that the peak level of V-SYNC is 130+-5mVp-p.
3. When adjusting the Chrominance level, Supply +5V DC to Pin 6 of PP3001 (TL14) to eliminate Luminance component.

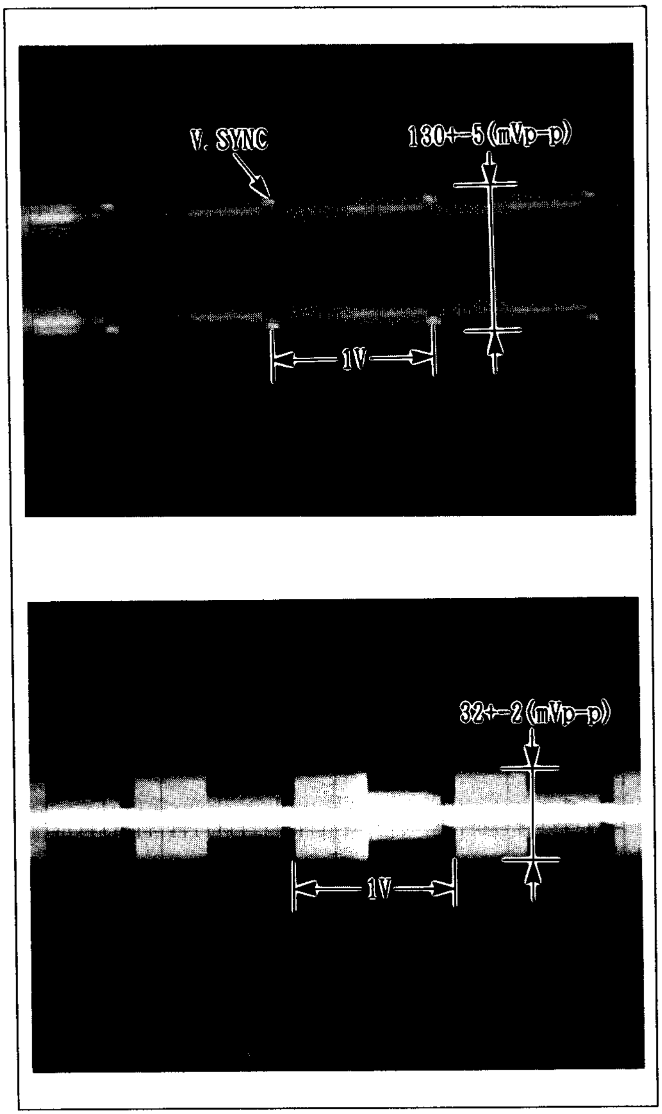


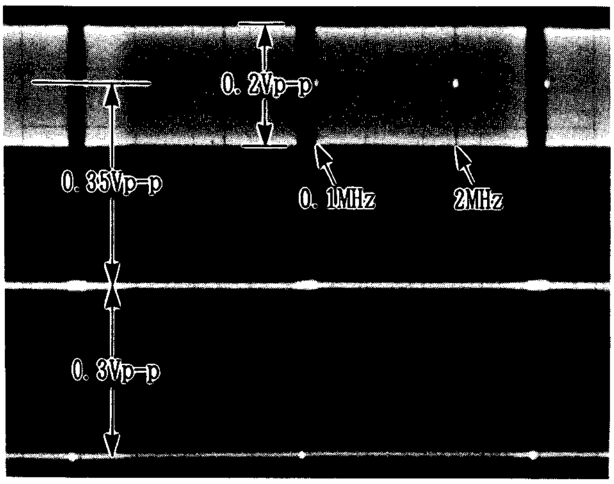
Fig. E6

2-5-9. VIDEO FREQUENCY RESPONSE ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3301 (SP) VR3302 (LP)	SP/LP (SELF RECORD) PLAYBACK	VIDEO SWEEP SIGNAL (Shown in Fig. E7)
TAPE	M. E Q.	SPEC	
BLANK TAPE	OSCILLO-SCOPE, VIDEO SWEEP GENERATOR	SP:0+-1(dB) (90-110%) LP:0 1	

Note:1. Set the Video Sweep Signal as shown in Fig. E7.

2. Set the AI SW to OFF position.



CONDITION:BURST SIGNAL OFF
75 ohm TERMINATED

Fig. E7

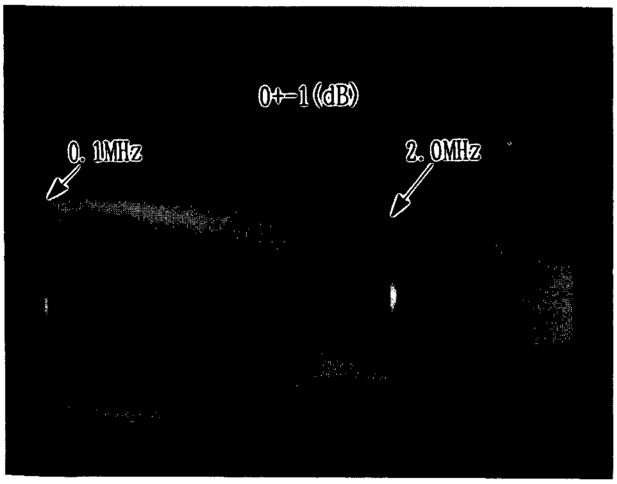


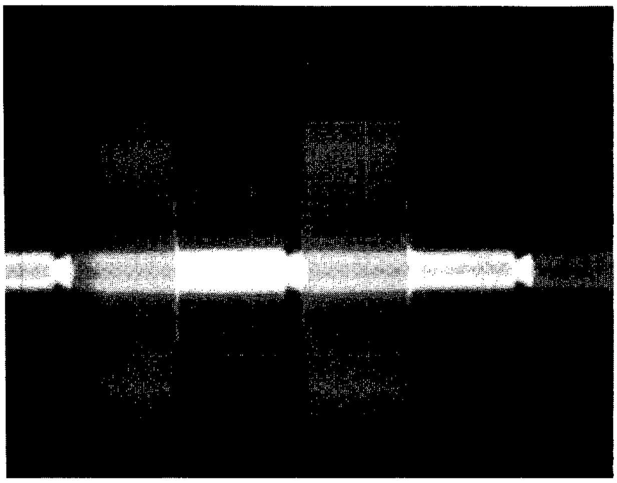
Fig. E8

2-5-10. CHROMINANCE RECURSIVE ADJUSTMENT.

TP	ADJ.	MODE	INPUT
IC302 (TL802)	VR801 VR802	SELF REC/ PB	PAL COLOUR BAR
TAPE	M. E Q.	SPEC	
BLANK TAPE	OSCILLO-SCOPE	MINIMIZE AMPLITUDE	

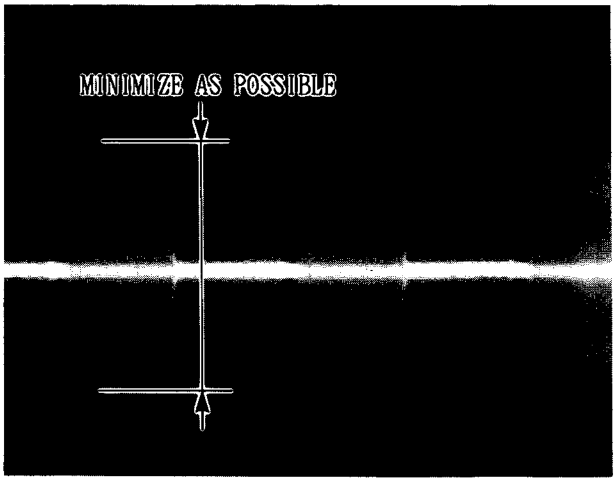
Note:1. Record the colour bar and play back the just recorded portion.

2. Adjust VR801 and VR802 until the amplitude of the signal at the Pin 17 of IC302 is minimum.



Before adjustment

Fig. E9



After adjustment

Fig. E10

AUDIO SECTION

2-5-11. BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4002(HOT/ TEST LAND) TP4003(GND/ TEST LAND)	VR4002	RECORDING	
TAPE	M. EQ.	SPEC	
BLANK TAPE	V.T.V.M.	3.0+-0.1(mVrms)	

Note:1. Connect the Audio Input and GND.

2-5-12. HiFi E-E LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
AUDIO OUT (L)	VR4512	STOP	SINEWAVE (1KHz, -6dB) (AUDIO IN (L))
TAPE	M. EQ.	SPEC	
	V.T.V.M., SINEWAVE GENERATOR	-8+-2(dB)	

Note:1. Select the STEREO mode by Remote Controller. (Both Left and Right indicators on the FIP are lit.)

2-5-13. CARRIER FREQUENCY ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC4501-34(L) IC4501-47(R)	VR4501 (NTSC-L) VR4509 (NTSC-R) VR4551 (PAL-L) VR4552 (PAL-R)	SP RECORDING	
TAPE	M. EQ.	SPEC	
BLANK TAPE	FREQUENCY COUNTER	NTSC-L:1.3+-0.003(MHz) NTSC-R:1.7+-0.003(MHz) PAL-L:1.4+-0.003(MHz) PAL-R:1.8+-0.003(MHz)	

Note:1. In case of setting in the NTSC mode, connect the jumper wire between PP3013-13 and GND.
2. In case of setting in the PAL mode, disconnect the jumper wire.

2-5-14. DEVIATION ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC4501-34(L) IC4501-47(R)	VR4502(L) VR4507(R)	SP RECORDING	SINEWAVE (1KHz, -6dB) AUDIO IN (L), (R)
TAPE	M. EQ.	SPEC	
BLANK TAPE	V.T.V.M. SINEWAVE GENERATOR	0+-0.5(dB)	

Note:1. Before recording the sinewave, adjust the Hifi Rec VR until the signal level at Audio Output Terminal is 400mVrms.

2-5-15. FM B.P.F. ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC4501-33(L) IC4501-48(R)	VR4550	PLAYBACK	SINEWAVE PAL:1.608MHz NTSC: 1.505MHz (400mVp-p) (PS4003-8)
TAPE	M. EQ.	SPEC	
NTSC RECORDED TAPE	OSCILLOSCOPE, SINEWAVE GENERATOR	Lch(IC4501-33) = Rch(IC4501-48)	

Note:1. Place the unit in PAL MODE by connecting the jumper wire between PP4003-16 and GND.
2. The GND lead of oscilloscope must be connected to the GND on HiFi AUDIO Pack C.B.A. to reduce the noise.
3. After this adjustment, disconnect the jumper wire and set to NTSC mode by connecting PP3013-13 and GND due to adjust NTSC mode.

TIMER SECTION

2-5-16. TIMER REFERENCE CLOCK ADJUSTMENT

TP	ADJ.	MODE	INPUT
TL7501	C7501	STOP	
TAPE	**M.EQ.**	**SPEC**	
	UNIVERSAL COUNTER	7812.5+-0.015(usec)	

2-5-17. LEVEL METER SENSITIVITY ADJUSTMENT

TP	ADJ.	MODE	INPUT
LEVEL METER ON THE FIP	VR4004	STOP	SINEWAVE (1KHz, -6dB) (AUDIO IN (L), (R))
TAPE	**M.EQ.**	**SPEC**	
		0dB INDICATOR ON THE AUDIO LEVEL METER JUST LIGHTS UP	

Note:1. Select the STEREO mode by Remote Controller. (Both Left and Right indicators on the FIP are lit.)

2. before recording the sinewave, adjust the HiFi Rec VR until the signal level at Audio Output Terminal is 400mVrms.

2-5-18. CHARACTER GENERATOR VCO ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC3501-26 (TL3)	C3502	STOP	PAL COLOUR BAR
TAPE	**M.EQ.**	**SPEC**	
	V.T.V.M.	2.5+-0.25V	

SECTION 3
SCHEMATIC DIAGRAMS

3-1. ABBREVIATIONS

443NT [L]	4.43 NTSC Ⓛ
A. COMP	AUDIO COMPONENT SIGNAL
A. COMPO	AUDIO COMPONENT SIGNAL
A. D.P [L]	AUDIO DUBBING PAUSE Ⓛ
A. D/L [L]	AUDIO DUBBING PAUSE Ⓛ
A. DEF [S]	AUDIO DEFEAT
A. DEF [S] [L]	AUDIO DEFEAT
A. DUB P [L]	AUDIO DUBBING PAUSE Ⓛ
A. DUB [H]	AUDIO DUBBING Ⓗ
A. ERASE	AUDIO ERASE
A. H. SW	AUDIO HEAD SWITCHING PULSE
A. HEAD [R]	AUDIO HEAD (REC)
A. HEAD [W]	AUDIO HEAD (PLAY)
A. IN [L]	AUDIO INPUT (L)
A. IN [R]	AUDIO INPUT (R)
A. MUT [H]	AUDIO MUTE Ⓗ
A. MUTE [H]	AUDIO MUTE Ⓗ
A. OUT [L]	AUDIO OUTPUT (L)
A. OUT [R]	AUDIO OUTPUT (R)
A. RF OUT	AUDIO RF SIGNAL OUTPUT
A/VS/S. DATA	AV SW/SERIAL DATA
AC ONLINE	AC ONLINE
AC. O/EE. H	AC ONLINE/EE Ⓗ
AFC S C	AFC S CURVE
AFC [S]	AFC S CURVE
AFC. DEF	AFC DEFEAT
ARFC OUT	AUDIO RF SIGNAL OUTPUT
ART. V	ARTIFICIAL VERTICAL SYNC SIGNAL
ART. V. MM	ARTIFICIAL VERTICAL SYNC SIGNAL MONO MULTI
ART. V/H/N	ARTIFICIAL VERTICAL SYNC SIGNAL Ⓗ/NORMAL
AT. V/H/N	ARTIFICIAL VERTICAL SYNC SIGNAL
ATSW/TEST/NOR/SE	TEST/NORMAL/SERVICE
AUDIO IN [L]	AUDIO INPUT (L)
AUDIO IN [R]	AUDIO INPUT (R)
AUDIO OUT [L]	AUDIO OUTPUT (L)
AUDIO OUT [R]	AUDIO OUTPUT (R)
AUDIO SELECT [H]	AUDIO SELECT Ⓗ
AUDIO. L	AUDIO (L)
AUDIO. R	AUDIO (R)
AV CNT	AV CONTROL
AV CTL	AV CONTROL
AV CTL/S. CLK	AV CONTROL/SERIAL CLOCK
AV. C.M.	AV CONTROL MODE
AVCNT/METER. R	AV CONTROL/LEVEL METER (R)
AVSW/METER. L	AV SW/LEVEL METER (L)
B MODE. H	B MODE Ⓗ
B.G.P	BURST GATE PULSE
BACKUP 5V	BACK UP 5V
BAND. U.E.	BAND U
BANDVL. D	BAND VL
BI/MI [L]	BILINGUAL/MIX Ⓛ
BIL	BILINGUAL
BIL [L]	BILINGUAL Ⓛ
BIL. [H]	BILINGUAL Ⓗ
BIL/M1 [L]	BILINGUAL Ⓛ
BS CLOCK	BS CLOCK
BS DATA	BS DATA
BS LCH IN	BS L CHANNEL INPUT
BS MIX [H]	BS MIX Ⓗ
BS MON [H]	BS MONITOR Ⓗ
BS MONI [H]	BS MONITOR Ⓗ
BS RCH IN	BS R CHANNEL INPUT
BS VIDEO	BS VIDEO SIGNAL
BS VIDEO/BS1	BS VIDEO SIGNAL
BS [H]	BS Ⓗ
BS. LEVEL	BS LEVEL
BS. M [H]	BS MONITOR Ⓗ
BS/VTR [H]	BS/VTR Ⓗ
BUS CLK	BUS CLOCK
BUS LSN	BUS LISTEN
BUS TLK	BUS TALK
BUZZER	BUZZER
CAP EC	CAPSTAN TORQUE CONTROL
CAP M GND	CAPSTAN MOTOR GND
CAP. ET	CAPSTAN TORQUE CONTROL
CAP. FG1	CAPSTAN FG1 PULSE
CAP. FG2	CAPSTAN FG2 PULSE
CAS. SW	CASSETTE SW
CCN	PLAYBACK CONTROL SIGNAL (−)
CCP	PLAYBACK CONTROL SIGNAL (+)
CHM	CONTROL SIGNAL (+)
CHP	CONTROL SIGNAL (−)
CINEM [L]	CINEMA Ⓛ
CINEMA [L]	CINEMA Ⓛ
CINEMA/MIX	CINEMA/MIX
CKL	RATCH LOCK
CKS	SHIFT LOCK
CL	CLOCK
CLK	CLOCK
CLK (C.G)	CLOCK
CLOCK. IN	CLOCK INPUT
CLP	CLAMP
COL/B/W/NOR	COLOUR/BLACK & WHITE/NORMAL
COLOR [H]	COLOUR Ⓗ
CONV	CONVERTOR
CS	CHIP SELECT
CTL GND	CONTROL GND
CTL HEAD [+]	CONTROL HEAD (+)
CTL HEAD [−]	CONTROL HEAD (−)
CTL [+]	CONTROL HEAD (+)
CTL [−]	CONTROL HEAD (−)
CUE BIAS	CUE BIAS
CURRENT LIM	CURRENT LIMMITER
CYL ET	CYLINDER TORQUE CONTROL
CYL GND	CYLINDER GND
D.F.M. REC [H]	DELAIED FM RECORDING Ⓗ
D. FM REC [L]	DELAIED FM RECORDING Ⓛ
D. GND	DIGITAL GND

D. REC [H]	DELAYED RECORDING Ⓗ
D4/S. LED	D4/STILL LED
D4/STILLED	D4/STILL LED
DAC [CLK]	TUNER DAC (CLOCK)
DAC/FSCS	TUNER DAC/FS CHIP SELECT
DAREC [H]	DELAYED AUDIO RECORDING Ⓗ
DATA	DATA
DECODER [L]	DECODER (L)
DECODER [R]	DECODER (R)
DEW	DEW
DEW SNS	DEW SENSOR
DFMRE [H]	DELAYED FM AUDIO RECORDING Ⓗ
E. REC 5V	EXCEPT RECORDING 5V
EC	ERR0R TORQUE CONTROL
ECR	ERROR TORQUE CONTROL REFERENCE VOLTAGE
EDT TRIG [L]	EDIT TRIGGER Ⓛ
EDIT [H]	EDIT Ⓗ
EE [H]	EE Ⓗ
EE [H]/INS [M]	EE Ⓗ/INSERT Ⓜ
EE. VV. TR	EE/VV/TRICK PLAY
EJECT. PO	EJECT POSITION
EJECT/VDET	EJECT/REVERSE SLOW LOCK
ENV. SEL	ENVELOPE SELECT
ENVE. OUT	ENVELOPE OUTPUT
ENVE. SEL	ENVELOPE SELECT
ENV SELECT	ENVELOPE SELECT
EP [H]	LP Ⓗ
EP/LP [H]	LP Ⓗ
EP/LP/SP	LP/SP
EP/SS [H]	LP/SLOW/STILL/STOP Ⓗ
EPROMCS	EPROM CHIP SELECT
EX. REC 5V	EXCEPT RECORDING 5V
FF/REW [L]	FIRST FORWARD/REWIND Ⓛ
FG1 IN	FG1 PULSE INPUT
FG2 IN	FG2 PULSE INPUT
FILTER ADJUSTMEN	FILTER ADJUSTMENT
FLY ERASE [H]	FLYING ERASE HEAD ON Ⓗ
FLY ON [H]	FLYING ERASE E HEAD ON Ⓗ
FLY. E [H]	FLYING ERASE HEAD ON Ⓗ
FM MUT [H]	FM AUDIO MUTE Ⓗ
FM MUTE [H]	FM AUDIO MUTE Ⓗ
FM OUT [L]	FM OUTPUT (L)
FM OUT [R]	FM OUTPUT (R)
FM PACK OUT [L]	FM PACK OUTPUT (L)
FM PACK OUT [R]	FM PACK OUTPUT (R)
FM/BS SEL [L]	FM/BS SELECT (L)
FM/BS SEL [R]	FM/BS SELECT (R)
FS. CLK	FS CLOCK
FUL. E [H]	FULL ERASE HEAD ON Ⓗ
FULL. E [H]	FULL ERASE HEAD ON Ⓗ
FULL. E. 12V	FULL ERASE 12V
GND [A]	GND (ANALOGUE)
GND [TU]	GND (TUNER)
GND/N. SW. 12V	GND/NON SW 12V

H. SYNC	HORIZONTAL SYNC
H. AMP. SW	HEAD AMP SW PULSE
H. P <R>	HEAD PHONE (R)
H. P <L>	HEAD PHONE (L)
H. P GND	HEAD PHONE GND
H. P OUT [L]	HEAD PHONE OUTPUT (L)
H. P OUT [R]	HEAD PHONE OUTPUT (R)
H. SW	HEAD SW PULSE
HEAD PHONE [L]	HEAD PHONE (L)
HEAD PHONE [R]	HEAD PHONE (R)
HEAD SW	HEAD SW
HEATER [+]	HEATER (+)
HEATER [−]	HEATER (−)
HSS	HORIZONTAL SYNC SIGNAL
HTR [+]	HEATER (+)
HTR [−]	HEATER (−)
I RFE	REFERENCE CURRENT
ICL	CONTROL AGC CIRCUIT
IF	INTERMEDIATE FREQUENCY
IN SELA1	INPUT SELECT A1 POSITION
IN SELA2	INPUT SELECT A2 POSITION
IN SELA3	INPUT SELECT A3 POSITION
INS L/R [L]	INSERT Lch/Rch Ⓛ
INS. [H]	INSERT Ⓗ
INSEL A1	INPUT SELECT A1 POSITION
INSEL A2	INPUT SELECT A2 POSITION
INSERT	INSERT
INSERT [H]	INSERT Ⓗ
IO CS	INPUT/OUTPUT CHIP SELECT
JOG1	JOG1
JOG S3 LED/FOWRD	JOG LED/FORWARD LED
JOG/F. LED	JOG LED/FORWARD LED
JSB [H]	JSB Ⓗ
JST. CLCK	JUST CLOCK
JST. CLK	JUST CLOCK
JST. CLOCK	JUST CLOCK
L. OUT	Lch OUTPUT
L. CH [H]	Lch Ⓗ
L. CH [L]	Lch Ⓛ
LED (MAIN)	LED (MAIN)
LED (STEREO)	LED (STEREO)
LED (SUB)	LED (SUB)
LED CKL	LED SERIAL CLOCK
LED CKS	LED SERIAL CLOCK
LED DATA	LED SERIAL DATA
LINE IN 1 [L]	LINE INPUT 1 (L)
LINE IN 1 [R]	LINE INPUT 1 (R)
LINE IN 2 [L]	LINE INPUT 2 (L)
LINE IN 2 [R]	LINE INPUT 2 (R)
LINE IN V	LINE INPUT VIDEO
LINE IN [L]	LINE INPUT (L)
LINE IN [R]	LINE INPUT (R)
LINE OUT [L]	LINE OUTPUT (L)
LINE OUT [R]	LINE OUTPUT (R)
LP [H]	LP Ⓗ

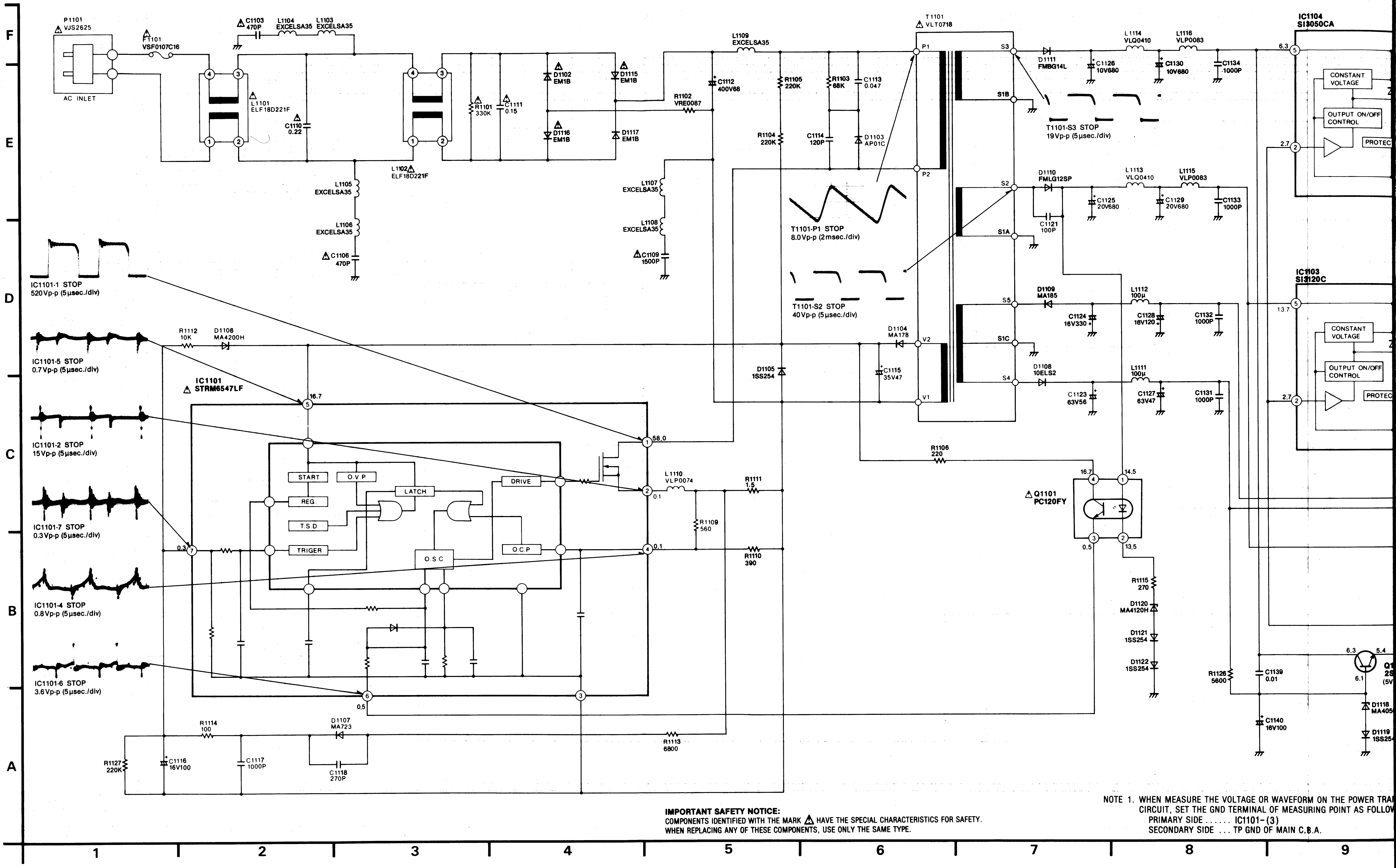
LPTRI [L]	LP TRICK PLAY Ⓛ
Lch/A. DUB	Lch/AUDIO DUBBING
M GND	MOTOR GND
M REG	MOTOR REGULATOR
MAIN OUT	MAIN OUTPUT
MAIN [L]	MAIN Ⓛ
MAIN/MONO	MAIN/MONAURAL
MAX IN	MAXIMAM INPUT
MES [H]	MESECAM Ⓗ
MESE [H]	MESECAM Ⓗ
MESE [L]	MESECAM Ⓛ
METER 5V	LEVEL METER 5V
METER [L]	LEVEL METER (L)
METER [R]	LEVEL METER (R)
METER. L/AVS	LEVEL METER (L)
METER. R/AVC	LEVEL METER (R)
MI/BI [L]	MIX Ⓗ/BILIGUAL
MIC GND	MIC GND
MIC IN	MIC INPUT
MIC IN [L]	MIC INPUT (L)
MIC IN [R]	MIC INPUT (R)
MIC [H]	MIC Ⓗ
MIX [H]	MIX Ⓗ
MIX [H]/CINEMA [L]	MIX Ⓗ/CINEMA SOUND Ⓛ
MIX/CINE	MIX Ⓗ/CINEMA SOUND Ⓛ
MIX/CINEMA [L]	MIX Ⓗ/CINEMA SOUND Ⓛ
MN. H/M. L	MONAURAL Ⓗ/MAIN Ⓛ
MN. H/MAI. L	MONAURAL Ⓗ/MAIN Ⓛ
MN2/MES. L	MONAURAL 2/MESECAM Ⓛ
MODE SEL	AUDIO MODE SELECT
MODE SW	AUDIO MODE SW
MODE. S. IN	AUDIO MODE SELECT INPUT
MODE. S. OUT	AUDIO MODE SELECT OUTPUT
MONO [H]	MONAURAL Ⓗ
MONO [H]/MAIN [L]	MONAURAL Ⓗ/MAIN Ⓛ
MONO2 [L]	MONAURAL 2
MONO2/MESE [FM(L)]	MONAURAL 2/MESECAM (FM Ⓛ)
MOTOR GND	MOTOR GND
MUTE	MUTE
N. A. REC [L]	NORMAL AUDIO RECORDING
N. SW 12V	NON SW 12V
N. SW. 5. DET	NON SW 5V DETECT
NICAM	NICAM
NICAM [L]	NICAM Ⓛ
NOL [H]	PAL Ⓗ/4.43 NTSC Ⓜ/3.58 NTSC Ⓛ
NOR/SOFT [H]	NORMAL/SOFT TAPE PLAY Ⓗ
NORMAL [H]	NORMAL Ⓗ
NR BIAS	NR BIAS
NTSC [L]	NTSC Ⓛ
OCH	CONTROL AGC CIRCUIT
OUT	OUTPUT
P-OFF [H]	POWER OFF Ⓗ
P-OFF [L]	POWER OFF Ⓛ
P. FAIL	POWER FAILURE DETECT
P. OFF [H]	POWER OFF Ⓗ

P. OFF [L]	POWER OFF Ⓛ
PAL [H]	PAL Ⓗ
PAL [L]/NTSC [H]	PAL Ⓛ/NTSC Ⓗ
PB ADJ OUT	PLAYBACK ADJUST OUTPUT
PB OUT	PLAYBACK OUTPUT
PB. H	PLAYBACK Ⓗ
PFG	PG/FG
PHOTSN +B	PHOTO SENSOR +B
PICT. CNT	PICTURE CONTROL
PLAY LED/RVS LED	PLAY LED/REVERSE LED
PLAY. PO	PLAY POSITION
PLAY/R. LED	PLAY LED/REVERSE LED
PLY/DEW	PLAY/DEW Ⓗ
POWER OFF [L]	POWER OFF Ⓛ
PREROLL [H]	PREROLL Ⓗ
PWRFAIL	POWER FAILURE DETECT
R. CH [H]	Rch Ⓗ
R. CH [L]	Rch Ⓛ
R. ST	RESET
R/S/F	REVERSE Ⓗ/STOP Ⓜ/FORWARD Ⓛ
RCH [H]	Rch Ⓗ
REC 12V	RECORDING 12V
REC CHROMA	RECORDING CHROMINANCE SIGNAL
REC H	RECORDING Ⓗ
REC IN	RECORDING INPUT
REC OUT [L]	RECORDING OUTPUT Ⓛ
REC START	RECORDING START
REC VR [C]	RECORDING VOLUME (COMMON)
REC VR [L]	RECORDING VOLUME (L)
REC VR [R]	RECORDING VOLUME (R)
REC Y	RECORDING LUMINANCE SIGNAL
REC [H]	RECORDING Ⓗ
REC. C	RECORDING CHROMINANCE SIGNAL
REC. Y	RECORDING LUMINANCE SIGNAL
REC/EE CTL	RECORDING/EE CONTROL
REEL-T	REEL PULSE (TAKE-UP)
REEL-S	REEL PULSE (SUPPLY)
REGULATOR FILTER	REGULATOR FILTER
RESET	RESET
REV M F/R	REVIEW MOTOR FORWARD/REVERSE
REV M V1	REVIEW MOTOR V1
REV M V2	REVIEW MOTOR V2
REV MOTOR F/R	REVIEW MOTOR FORWARD/REVERSE
REV MOTOR V1	REVIEW MOROR V1
REV MOTOR V2	REVIEW MOTOR V2
REV MOTOR [+]	REVIEW MOTOR (+)
REV MOTOR [−]	REVIEW MOTOR (−)
REV. M. GND	REVIEW MOTOR GND
RF. CHROMA	RF CHROMINANCE SIGNAL
RF OUT	RF OUTPUT
RF Y	RF LUMINANCE SIGNAL
RF. Y. IN	RF LUMINANCE SIGNAL INPUT
RF. Y. OUT	RF LUMINANCE SIGNAL OUTPUT

ABBREVIATIONS

ROTAR. SW	ROTARY SW
ROTARY	ROTARY SW
RST	RESET
RST [L]	RESET Ⓛ
Rch/INST	Rch/INSERT
S IN	SERIAL DATA INPUT
S OUT	SERIAL DATA OUTPUT
S-PHOTO	SUPPLY PHOTO TRANSISTOR
S-RL. PLS	SUPPLY REEL PULSE
S. CLK	SERIAL CLOCK
S. CLK/AV	SERIAL CLOCK/AV
S. DATA	SERIAL DATA
S. DATA/A	SERIAL DATA
S. PHOTO	SUPPLY PHOTO TRANSISTOR
S. TAB [L]	SAFETY TAB SW ON Ⓛ
S/P/N	SECAM/PAL/NTSC
SC IN	SERIAL CLOCK INPUT
SC OUT	SERIAL CLOCK OUTPUT
SCK SELECT	SERIAL CLOCK SELECT
SEL OUT [L]	SELECT OUTPUT (L)
SEL OUT [R]	SELECT OUTPUT (R)
SHUTTLE 1	SHUTTLE 1
SIF	SOUND INTERMEDIATE FREQUENCY
SLMUT [H]	INPUT SELECT MUTE Ⓗ
SLNID [+]	SOLENOID (+)
SLNID [−]	SOLENOID (−)
SLW TR. MM	SLOW TRACKING MONO MULTI
SLW TR. REF	SLOW TRACKING REFERENCE VOLTAGE
SNS. GND	SENSOR GND
SOFT [H]	SOFT TAPE PLAY Ⓗ
SOFT [H]/NORMAL	SOFT TAPE PLAY Ⓗ/NORMAL Ⓗ
SOLENOID ON [L]	SOLENOID ON Ⓛ
SP [H]	SP Ⓗ
SP/L/SLP	SP/LP
SSS [L]	SLOW/STILL/STOP
STEREO LED	STEREO LED
STEREO [H]	STEREO Ⓗ
STEREO [L]	STEREO Ⓛ
STOP. PO	STOP POSITION
STOP/5V	STOP POSITION/5V
STOP1/TAPE SEL	STOP1 POSITION/TAPE SELECT
STOP1/PAL:ST	STOP1 POSITION/PAL
STOP2. PO	STOP 2 POSITION
STOP2/S-TAB	STOP 2 POSITION/SAFETY TAB SW
STREO [H]	STEREO Ⓗ
SUB BIAS	SUB BIAS
SUB. SW	SUB SW
SVHS CAS [L]	S-VHS CASSETTE Ⓛ
SW. 5. DET	SW 5V DETECT
SYNC [L]	SYNC Ⓛ
SYSCON 5V	SYSTEM CONTROL 5V
SYSTEM	SYSTEM SW
T-PHOTO	TAKE-UP PHOTO TRANSISTOR
T-RL. PLS	TAKE-UP REEL PULSE
T. BUSCLK	TIMER BUS CLOCK
T. BUSLSN	TIMER BUS LISTEN
T. BUSTLK	TIMER BUS TALK
T. END [L]	TAPE END Ⓛ
T. PHOTO	TAKE-UP PHOTO TRANSISTOR
TAPE END [L]	TAPE END Ⓛ
TAPE END [L]/CAM	TAPE END Ⓛ/CAMERA PAUSE
TEST	TEST MODE
TPZ	TRAPEZOIDAL WAVE CIRCUIT
TRIC [L]	TRIC PLAY Ⓛ
TRICK [L]	TRIC PLAY Ⓛ
TRK. ENV	AUTO TRACKING ENVELOPE DETECT
TU. AUDIO	TUNER AUDIO
TU. GND	TUNER GND
TU. V. IN	TUNER VIDEO SIGNAL INPUT
TU. VIDEO	TUNER VIDEO
TUN NOR IN	TUNER NORMAL INPUT
TUN R	TUNER AUDIO (R)
TUN. AUDIO IN	TUNER AUDIO INPUT
TUNER 12V	TUNER 12V
TUNER L	TUNER AUDIO (L)
TUNER V IN	TUNER VIDEO SIGNAL INPUT
TUNER [L]	TUNER AUDIO (L)
TUNER [N]	TUNER AUDIO (NORMAL)
TUNER [R]	TUNER AUDIO (R)
TUNER. 12	TUNER 12V
TUOFF [H]	TUNER OFF Ⓗ
TV. AUDIO	TV AUDIO
TV/VTR	TV/VTR
TXTON [L]	TEXT ON Ⓛ
U. REG45V	UNREGULATOR 45V
UNREG	UNREGULATOR
UNREG19V	UNREGULATOR 19V
V. REF	REFERENCE VOLTAGE
V. EE [H]	VIDEO EE Ⓗ
V. EE [L]	VIDEO EE Ⓛ
VCO REF	RERERENCE OSCILLATER
VD. IN	VIDEO SIGNAL INPUT
VD. OUT	VIDEO SIGNAL OUTPUT
VIDEO EE [L]	VIDEO EE Ⓛ
VIDEO IN	VIDEO SIGNAL INPUT
VIDEO OUT	VIDEO SIGNAL OUTPUT
VM	MOTOR VOLTAGE
VM DOWN [L]	MOTOR VOLTAGE DOWN Ⓛ
VSS	VERTICAL SYNC SIGNAL
VTR [H]	VTR Ⓗ
VTR. 12V	VTR 12V
X IN	OSCILLATOR INPUT
X OUT	OSCILLATOR OUTPUT

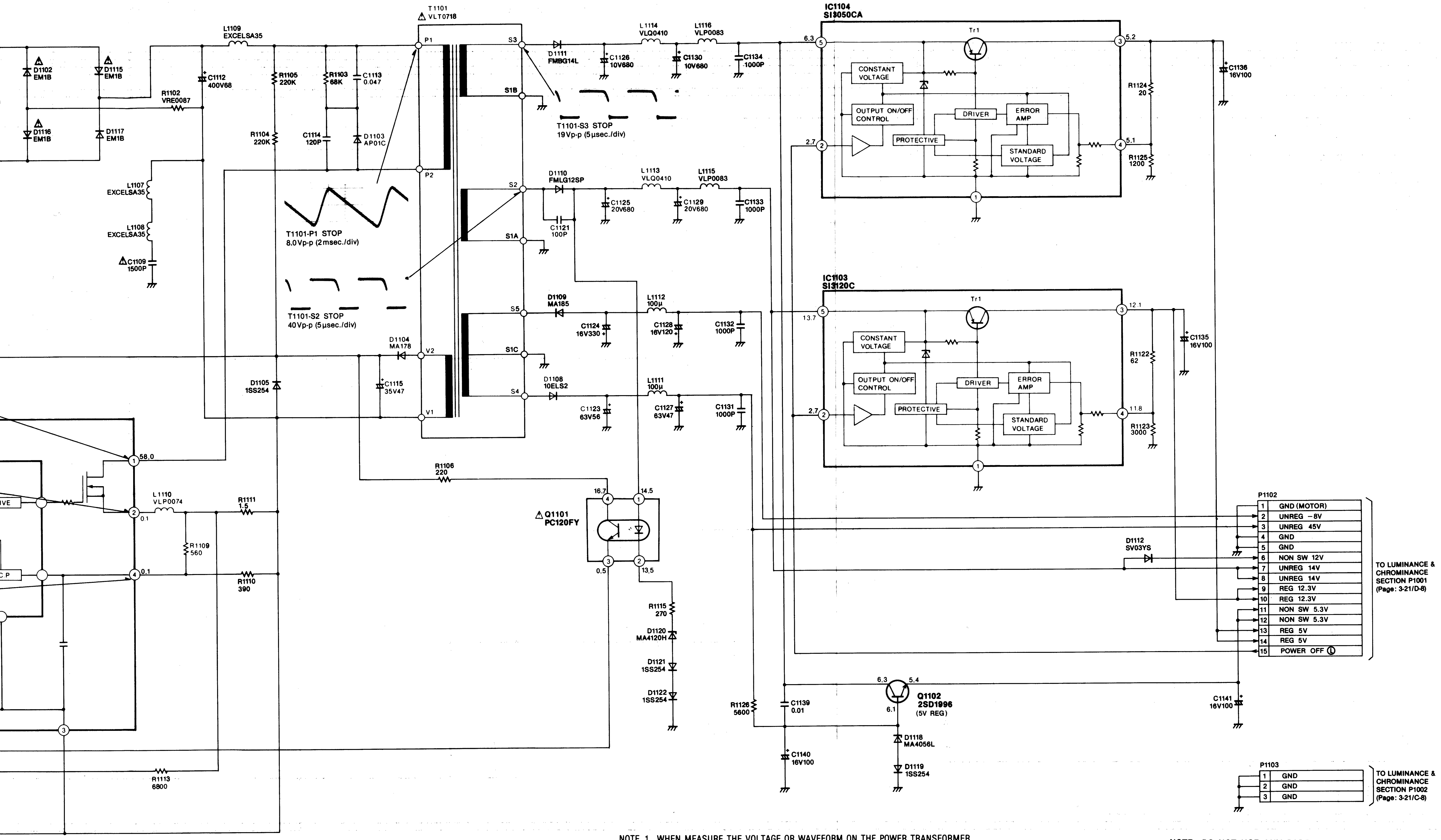
3-2. POWER SCHEMATIC DIAGRAM



F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
P1101
VJS2625
AC INLET
F1101
VSF0107C16
C1103
470P
L1104
EXCELSA35
L1103
EXCELSA35
L1101
ELF18D221F
C1110
0.22
L1102
ELF18D221F
L1105
EXCELSA35
L1106
EXCELSA35
C1106
470P
R1101
330K
C1111
0.15
D1102
EM1B
D1115
EM1B
D1116
EM1B
D1117
EM1B
R1102
VRE0087
L1107
EXCELSA35
L1108
EXCELSA35
C1109
1500P
L1109
EXCELSA35
C1112
400V68
R1105
220K
R1103
68K
C1113
0.047
R1104
220K
C1114
120P
D1103
AP01C
T1101
VLT0718
P1
P2
V2
V1
S3
S1B
S2
S1A
S5
S1C
S4
T1101-P1 STOP
8.0Vp-p (2msec./div)
T1101-S2 STOP
40Vp-p (5μsec./div)
T1101-S3 STOP
19Vp-p (5μsec./div)
D1111
FMBG14L
C1126
10V680
L1114
VLQ0410
C1130
10V680
L1116
VLP0083
C1134
1000P
D1110
FMLG12SP
C1121
100P
C1125
20V680
L1113
VLQ0410
C1129
20V680
L1115
VLP0083
C1133
1000P
D1109
MA185
C1124
16V330
L1112
100μ
C1128
16V120
C1132
1000P
D1108
10ELS2
C1123
63V56
L1111
100μ
C1127
63V47
C1131
1000P
IC1104
SI3050CA
IC1103
SI3120C
CONSTANT VOLTAGE
OUTPUT ON/OFF CONTROL
PROTEC
6.3
2.7
13.7
2.7
IC1101-1 STOP
520Vp-p (5μsec./div)
IC1101-5 STOP
0.7Vp-p (5μsec./div)
IC1101-2 STOP
15Vp-p (5μsec./div)
IC1101-7 STOP
0.3Vp-p (5μsec./div)
IC1101-4 STOP
0.8Vp-p (5μsec./div)
IC1101-6 STOP
3.6Vp-p (5μsec./div)
R1112
10K
D1106
MA4200H
D1104
MA178
D1105
1SS254
C1115
35V47
IC1101
STRM6547LF
16.7
58.0
0.1
0.1
0.3
0.5
START
O.V.P
LATCH
DRIVE
REG
T.S.D
TRIGER
O.S.C
O.C.P
L1110
VLP0074
R1111
1.5
R1109
560
R1110
390
R1106
220
Q1101
PC120FY
16.7
14.5
0.5
13.5
R1115
270
D1120
MA4120H
D1121
1SS254
D1122
1SS254
R1126
5600
C1139
0.01
C1140
16V100
6.3
5.4
6.1
D1118
D1119
R1114
100
D1107
MA723
R1113
6800
R1127
220K
C1116
16V100
C1117
1000P
C1118
270P

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE 1. WHEN MEASURE THE VOLTAGE OR WAVEFORM ON THE POWER TRA
CIRCUIT, SET THE GND TERMINAL OF MEASURING POINT AS FOLLOW
PRIMARY SIDE ...... IC1101-(3)
SECONDARY SIDE ... TP GND OF MAIN C.B.A.


T1101
VLT0718
L1109
EXCELSA35
D1102
EM1B
D1115
EM1B
D1116
EM1B
D1117
EM1B
R1102
VRE0087
C1112
400V68
R1105
220K
R1103
68K
C1113
0.047
R1104
220K
C1114
120P
D1103
AP01C
L1107
EXCELSA35
L1108
EXCELSA35
C1109
1500P
P1
P2
S3
S1B
S2
S1A
S5
S1C
S4
V2
V1
T1101-P1 STOP
8.0Vp-p (2msec./div)
T1101-S2 STOP
40Vp-p (5μsec./div)
T1101-S3 STOP
19Vp-p (5μsec./div)
D1111
FMBG14L
C1126
10V680
L1114
VLQ0410
C1130
10V680
L1116
VLP0083
C1134
1000P
D1110
FMLG12SP
C1121
100P
C1125
20V680
L1113
VLQ0410
C1129
20V680
L1115
VLP0083
C1133
1000P
D1109
MA185
C1124
16V330
L1112
100μ
C1128
16V120
C1132
1000P
D1108
10ELS2
C1123
63V56
L1111
100μ
C1127
63V47
C1131
1000P
D1104
MA178
C1115
35V47
D1105
1SS254
R1106
220
Q1101
PC120FY
16.7
14.5
0.5
13.5
R1115
270
D1120
MA4120H
D1121
1SS254
D1122
1SS254
58.0
0.1
0.1
L1110
VLP0074
R1111
1.5
R1109
560
R1110
390
R1113
6800
IC1104
SI3050CA
Tr1
CONSTANT VOLTAGE
OUTPUT ON/OFF CONTROL
DRIVER
ERROR AMP
PROTECTIVE
STANDARD VOLTAGE
6.3
5.2
2.7
5.1
R1124
20
R1125
1200
C1136
16V100
IC1103
SI3120C
Tr1
CONSTANT VOLTAGE
OUTPUT ON/OFF CONTROL
DRIVER
ERROR AMP
PROTECTIVE
STANDARD VOLTAGE
13.7
12.1
2.7
11.8
R1122
62
R1123
3000
C1135
16V100
D1112
SV03YS
R1126
5600
C1139
0.01
C1140
16V100
Q1102
2SD1996
(5V REG)
6.3
5.4
6.1
D1118
MA4056L
D1119
1SS254
C1141
16V100
P1102
1 GND (MOTOR)
2 UNREG -8V
3 UNREG 45V
4 GND
5 GND
6 NON SW 12V
7 UNREG 14V
8 UNREG 14V
9 REG 12.3V
10 REG 12.3V
11 NON SW 5.3V
12 NON SW 5.3V
13 REG 5V
14 REG 5V
15 POWER OFF Ⓛ
TO LUMINANCE & CHROMINANCE SECTION P1001 (Page: 3-21/D-8)
P1103
1 GND
2 GND
3 GND
TO LUMINANCE & CHROMINANCE SECTION P1002 (Page: 3-21/C-8)
4
5
6
7
8
9
10
11
12

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

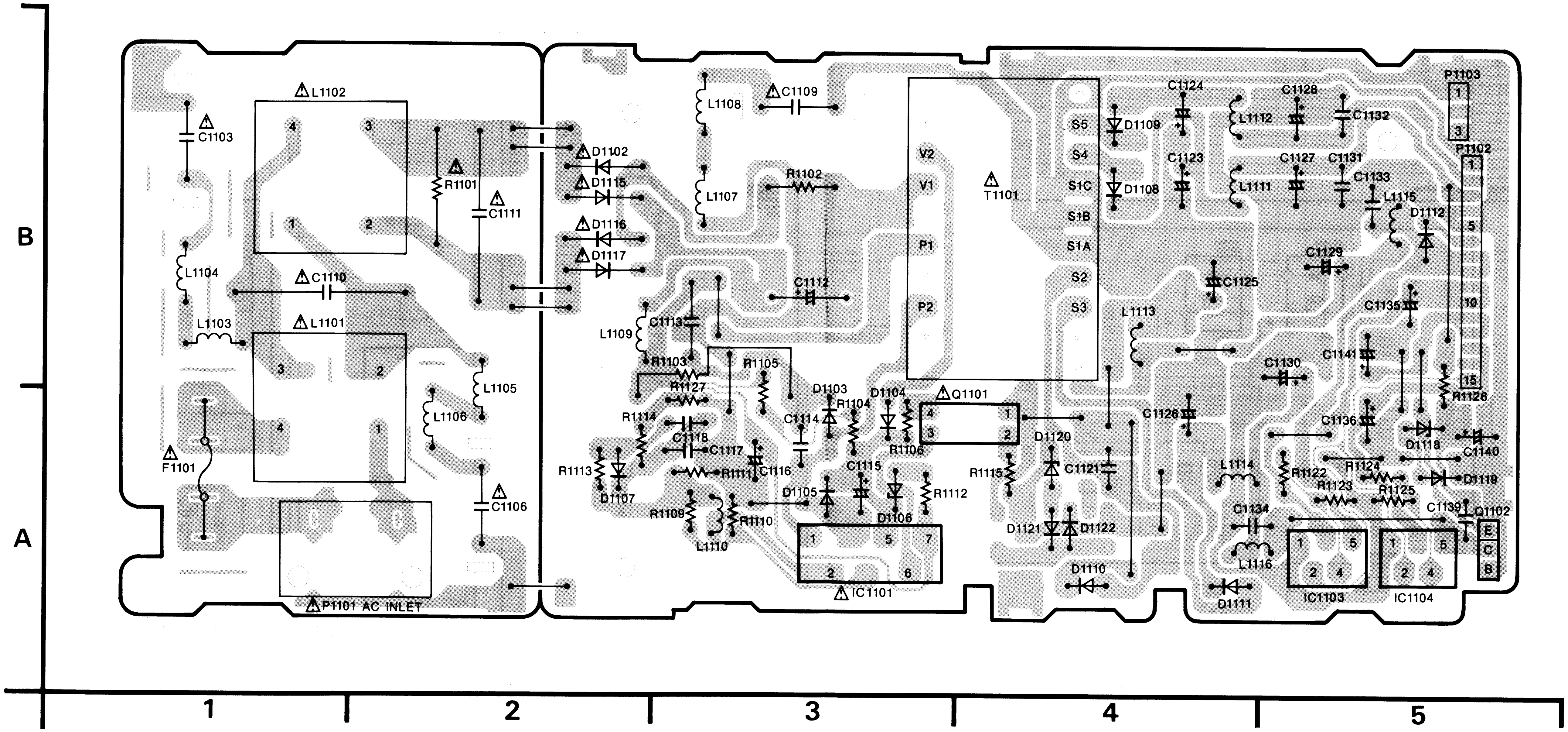
NOTE 1. WHEN MEASURE THE VOLTAGE OR WAVEFORM ON THE POWER TRANSFORMER CIRCUIT, SET THE GND TERMINAL OF MEASURING POINT AS FOLLOWS.
PRIMARY SIDE . . . . . . IC1101-(3)
SECONDARY SIDE . . . TP GND OF MAIN C.B.A.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-3. POWER C.B.A. (VEP01558A)

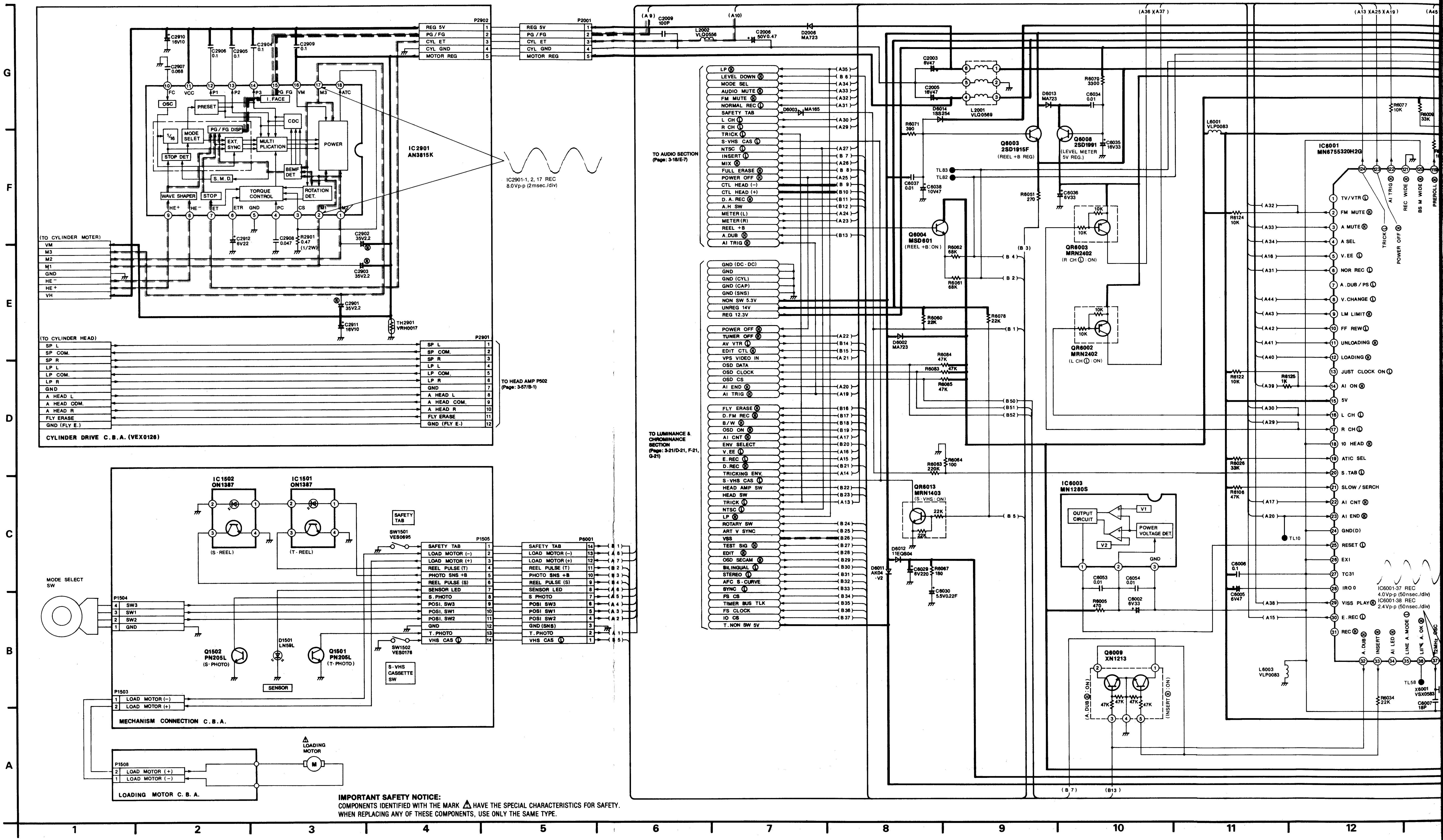
POWER C.B.A.	
Transistor	
Q1101 Q1102	A-4 A-5
Integrated Circuit	
IC1101 IC1103 IC1104	A-3 A-5 A-5
Connector	
P1101 P1102 P1103	A-1 B-5 B-5

ADDRESS INFORMATION

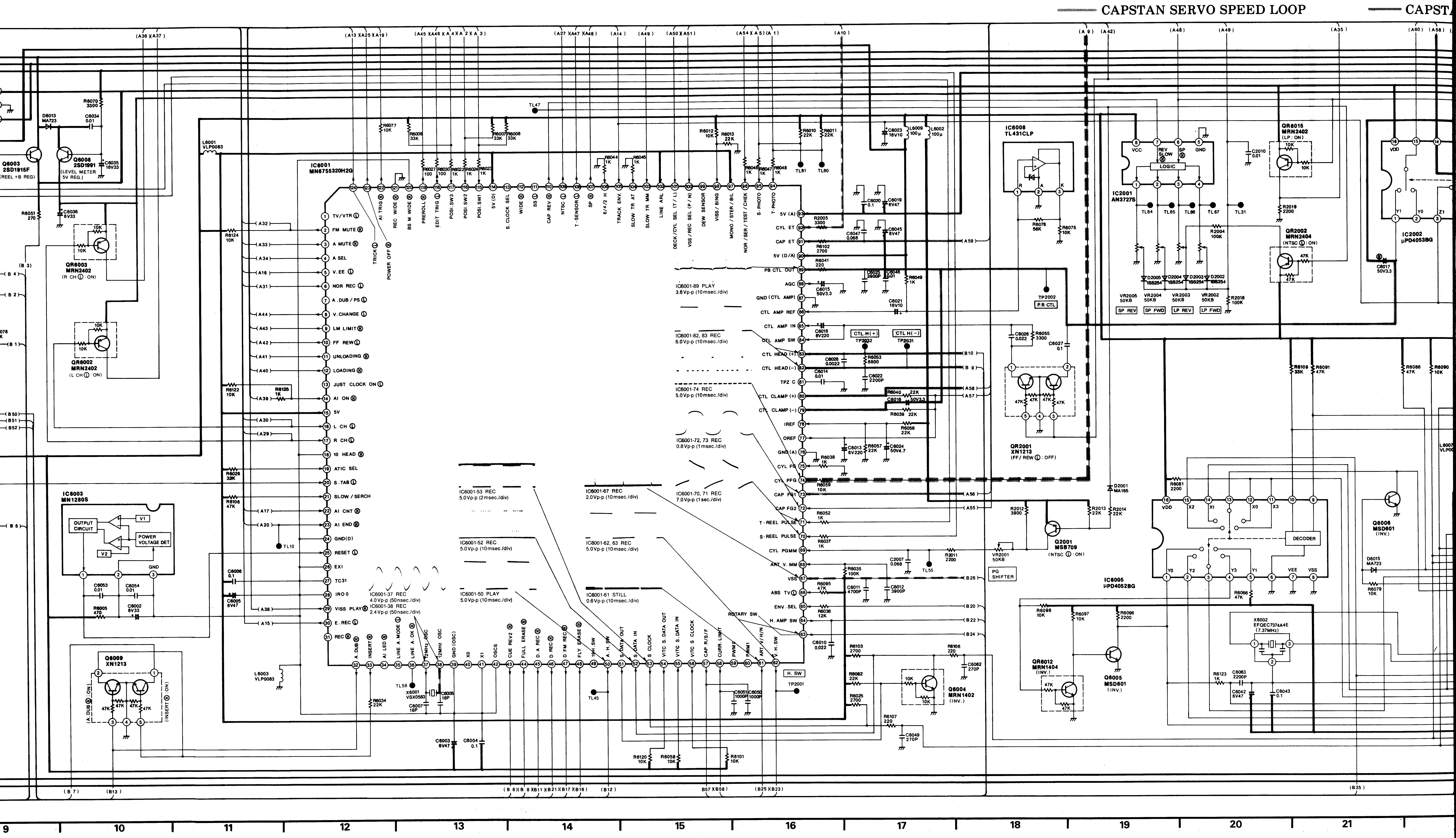


B
A
1
2
3
4
5
L1102
C1103
R1101
C1111
L1104
C1110
L1103
L1101
L1105
L1106
F1101
C1106
P1101 AC INLET
D1102
D1115
D1116
D1117
L1108
L1107
C1109
R1102
C1112
L1109
C1113
R1103
R1127
R1105
R1114
C1118
C1117
R1111
C1116
R1113
D1107
R1109
R1110
L1110
D1103
R1104
C1114
D1104
R1106
C1115
D1105
D1106
R1112
IC1101
Q1101
T1101
V2
V1
P1
P2
S5
S4
S1C
S1B
S1A
S2
S3
D1120
C1121
R1115
D1121
D1122
D1110
D1109
D1108
C1124
C1123
L1112
L1111
C1128
C1127
C1131
C1132
C1133
L1115
D1112
C1129
C1125
L1113
C1130
C1135
C1141
C1126
C1136
L1114
R1122
R1124
R1123
R1125
C1134
L1116
D1111
D1118
D1119
C1140
C1139
Q1102
E
C
B
R1126
P1103
P1102
IC1103
IC1104

3-4. SYSTEM CONTROL & SERVO SECTION IN MAIN SCHEMATIC DIAGRAM


IC2901
AN3815K
IC2901-1, 2, 17 REC
8.0Vp-p (2msec./div)
(TO CYLINDER MOTER)
(TO CYLINDER HEAD)
P2902
P2001
P2901
TO HEAD AMP P502
(Page: 3-57/B-1)
CYLINDER DRIVE C.B.A. (VEX0126)
IC1502
ON1387
IC1501
ON1387
(S-REEL)
(T-REEL)
SAFETY TAB
SW1501
VES0695
MODE SELECT SW
Q1502
PN205L
(S-PHOTO)
D1501
LN59L
SENSOR
Q1501
PN205L
(T-PHOTO)
SW1502
VES0176
S-VHS CASSETTE SW
P1505
P6001
P1504
P1503
MECHANISM CONNECTION C.B.A.
P1508
LOADING MOTOR
LOADING MOTOR C.B.A.
TO AUDIO SECTION
(Page: 3-18/E-7)
TO LUMINANCE & CHROMINANCE SECTION
(Page: 3-21/D-21, F-21, G-21)
Q6003
2SD1915F
(REEL +B REG)
Q6008
2SD1991
(LEVEL METER 5V REG.)
Q6004
MSD601
(REEL +B: ON)
QR6001
MRN2402
(R CH Ⓛ: ON)
QR6002
MRN2402
(L CH Ⓛ: ON)
QR6013
MRN1403
(S-VHS: ON)
IC6003
MN1280S
Q6009
XN1213
IC6001
MN6755320H2G
IC6001-37 REC
4.0Vp-p (50nsec./div)
IC6001-38 REC
2.4Vp-p (50nsec./div)
X6001
VSX0583
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

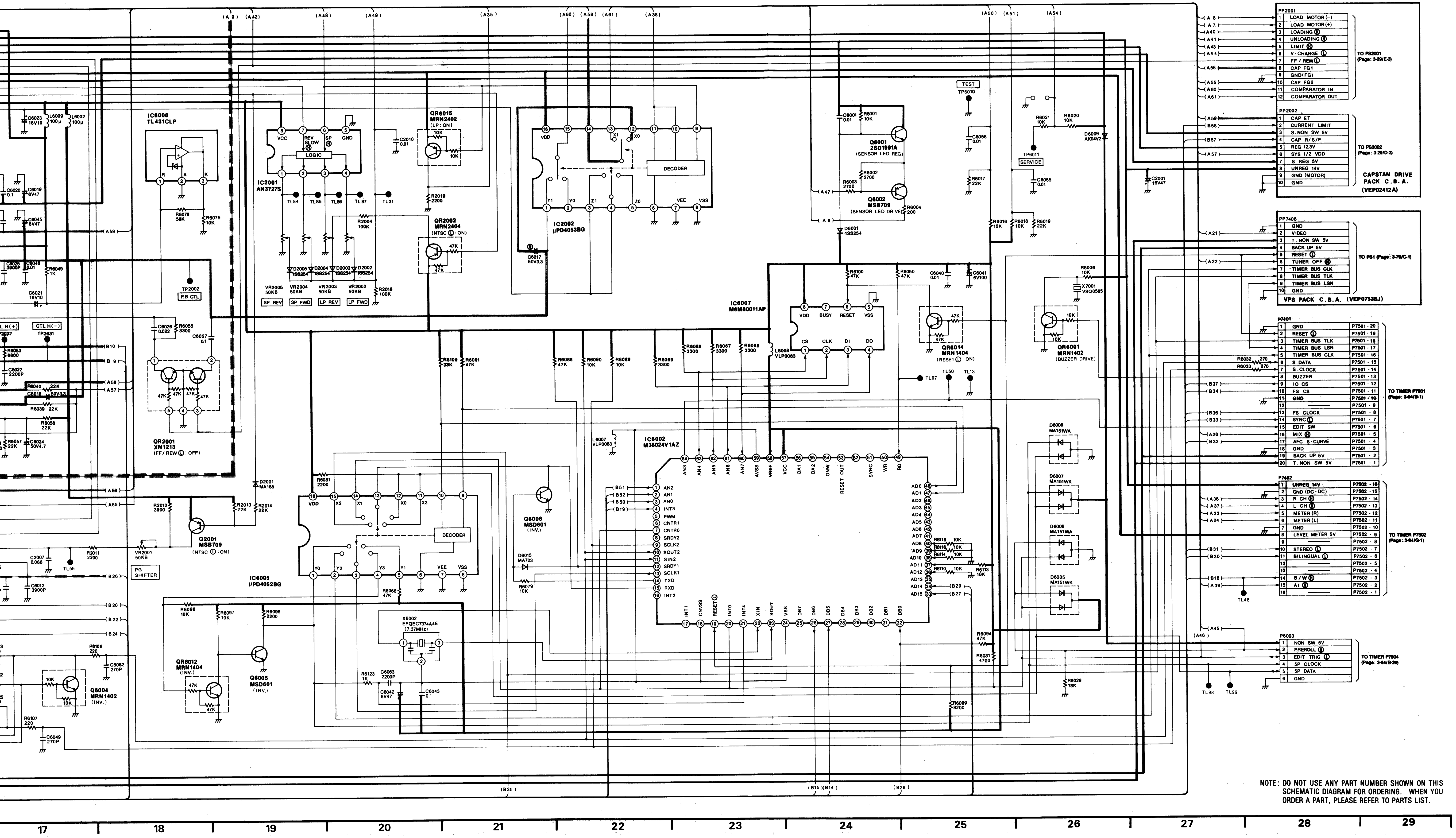

CAPSTAN SERVO SPEED LOOP
CAPST
IC6001
MN6755320H2G
IC6003
MN1280S
OUTPUT CIRCUIT
POWER VOLTAGE DET
V1
V2
GND
IC6008
TL431CLP
IC2001
AN3727S
LOGIC
VCC
REV SLOW
SP
GND
IC2002
μPD4053BG
IC6005
μPD4052BG
DECODER
Q6003
2SD1915F
(REEL +B REG)
Q6008
2SD1991
(LEVEL METER 5V REG.)
D6013
MA723
QR6003
MRN2402
(R CH Ⓛ : ON)
QR6002
MRN2402
(L CH Ⓛ : ON)
Q6009
XN1213
(A.DUB Ⓛ : ON)
(INSERT Ⓛ : ON)
QR2001
XN1213
(FF/REW Ⓛ : OFF)
QR6015
MRN2402
(LP : ON)
QR2002
MRN2404
(NTSC Ⓛ : ON)
Q2001
MSB709
(NTSC Ⓛ : ON)
QR6012
MRN1404
(INV.)
Q6005
MSD601
(INV.)
Q6004
MRN1402
(INV.)
Q6006
MSD601
(INV.)
D6015
MA723
D2001
MA165
X6001
VSX0583
X6002
EFOEC7374A4E
(7.37MHz)
L6001
VLP0083
L6003
VLP0083
L6009
100μ
L6002
100μ
TV/VTR Ⓛ
FM MUTE Ⓗ
A MUTE Ⓗ
A SEL
V.EE Ⓛ
NOR REC Ⓛ
A.DUB/PS Ⓛ
V.CHANGE Ⓛ
LM LIMIT Ⓗ
FF REW Ⓛ
UNLOADING Ⓗ
LOADING Ⓗ
JUST CLOCK ON Ⓛ
AI ON Ⓗ
5V
L CH Ⓛ
R CH Ⓛ
10 HEAD Ⓗ
ATIC SEL
S.TAB Ⓛ
SLOW/SERCH
AI CNT Ⓗ
AI END Ⓗ
GND(D)
RESET Ⓛ
EXI
TC31
IRO0
VISS PLAY Ⓛ
E.REC Ⓛ
REC Ⓗ
TRICK Ⓛ
POWER OFF Ⓗ
5V (A)
CYL ET
CAP ET
5V (D/A)
PB CTL OUT
AGC
GND (CTL AMP)
CTL AMP REF
CTL AMP IN
CTL AMP SW
CTL HEAD (+)
CTL HEAD (−)
TPZ C
CTL CLAMP (+)
CTL CLAMP (−)
IREF
OREF
GND (A)
CYL FG
CYL PFG
CAP FG1
CAP FG2
T-REEL PULSE
S-REEL PULSE
CYL PGMM
ART V.MM
VSS
ABS TV Ⓛ
ENV.SEL
H.AMP SW
ROTARY SW
CTL H(+)
TP2032
CTL H(−)
TP2031
TP2002
P.B CTL
PG SHIFTER
H. SW
TP2001
SP REV
SP FWD
LP REV
LP FWD
IC6001-89 PLAY
3.6Vp-p (10msec./div)
IC6001-82, 83 REC
6.0Vp-p (10msec./div)
IC6001-74 REC
5.0Vp-p (10msec./div)
IC6001-72, 73 REC
0.8Vp-p (1msec./div)
IC6001-70, 71 REC
7.0Vp-p (1sec./div)
IC6001-53 REC
5.0Vp-p (2msec./div)
IC6001-67 REC
2.0Vp-p (10msec./div)
IC6001-52 REC
5.0Vp-p (10msec./div)
IC6001-62, 63 REC
5.0Vp-p (10msec./div)
IC6001-37 REC
4.0Vp-p (50nsec./div)
IC6001-38 REC
2.4Vp-p (50nsec./div)
IC6001-50 PLAY
5.0Vp-p (10msec./div)
IC6001-61 STILL
0.6Vp-p (10msec./div)
9
10
11
12
13
14
15
16
17
18
19
20
21

CAPSTAN SERVO SPEED LOOP

CAPSTAN SERVO PHASE LOOP

CYLINDER SERVO SPEED LOOP

CYLINDER SERVO PHASE LOOP


IC6008 TL431CLP
IC2001 AN3727S
LOGIC
QR6015 MRN2402 (LP: ON)
QR2002 MRN2404 (NTSC Ⓛ: ON)
IC2002 μPD4053BG
DECODER
Q6001 2SD1991A (SENSOR LED REG)
Q6002 MSB709 (SENSOR LED DRIVE)
TEST TP6010
TP6011 SERVICE
D6009 AK04V2
TP2002 P.B CTL
QR2001 XN1213 (FF/REW Ⓛ: OFF)
VR2005 50KB
VR2004 50KB
VR2003 50KB
VR2002 50KB
SP REV
SP FWD
LP REV
LP FWD
IC6007 M6M80011AP
L6008 VLP0083
QR6014 MRN1404 (RESET Ⓛ: ON)
QR6001 MRN1402 (BUZZER DRIVE)
X7001 VSQ0565
IC6002 M38024V1AZ
L6007 VLP0083
Q6006 MSD601 (INV.)
D6015 MA723
IC6005 μPD4052BG
Q2001 MSB709 (NTSC Ⓛ: ON)
VR2001 50KB
PG SHIFTER
X6002 EFQEC7374A4E (7.37MHz)
QR6012 MRN1404 (INV.)
Q6005 MSD601 (INV.)
Q6004 MRN1402 (INV.)
D6008 MA151WA
D6007 MA151WK
D6006 MA151WA
D6005 MA151WK
D2001 MA165
PP2001
1 LOAD MOTOR(−)
2 LOAD MOTOR(+)
3 LOADING Ⓗ
4 UNLOADING Ⓗ
5 LIMIT Ⓗ
6 V·CHANGE Ⓛ
7 FF / REWⓁ
8 CAP FG1
9 GND(FG)
10 CAP FG2
11 COMPARATOR IN
12 COMPARATOR OUT
TO PS2001 (Page: 3-29/E-3)
PP2002
1 CAP ET
2 CURRENT LIMIT
3 S.NON SW 5V
4 CAP R/S/F
5 REG 12.3V
6 SYS 1/2 VDD
7 S REG 5V
8 UNREG 14V
9 GND (MOTOR)
10 GND
TO PS2002 (Page: 3-29/D-3)
CAPSTAN DRIVE PACK C.B.A. (VEP02412A)
PP7406
1 GND
2 VIDEO
3 T.NON SW 5V
4 BACK UP 5V
5 RESET Ⓛ
6 TUNER OFF Ⓗ
7 TIMER BUS CLK
8 TIMER BUS TLK
9 TIMER BUS LSN
10 GND
TO PS1 (Page: 3-79/C-1)
VPS PACK C.B.A. (VEP07538J)
P7401
1 GND P7501-20
2 RESET Ⓛ P7501-19
3 TIMER BUS TLK P7501-18
4 TIMER BUS LSN P7501-17
5 TIMER BUS CLK P7501-16
6 S.DATA P7501-15
7 S.CLOCK P7501-14
8 BUZZER P7501-13
9 IO CS P7501-12
10 FS CS P7501-11
11 GND P7501-10
12 P7501-9
13 FS CLOCK P7501-8
14 SYNCⓁ P7501-7
15 EDIT SW P7501-6
16 MIX Ⓗ P7501-5
17 AFC S·CURVE P7501-4
18 GND P7501-3
19 BACK UP 5V P7501-2
20 T.NON SW 5V P7501-1
TO TIMER P7501 (Page: 3-64/B-1)
P7402
1 UNREG 14V P7502-16
2 GND (DC·DC) P7502-15
3 R CH Ⓗ P7502-14
4 L CH Ⓗ P7502-13
5 METER (R) P7502-12
6 METER (L) P7502-11
7 GND P7502-10
8 LEVEL METER 5V P7502-9
9 P7502-8
10 STEREO Ⓛ P7502-7
11 BILINGUAL Ⓛ P7502-6
12 P7502-5
13 P7502-4
14 B/W Ⓗ P7502-3
15 AI Ⓗ P7502-2
16 P7502-1
TO TIMER P7502 (Page: 3-64/G-1)
P6003
1 NON SW 5V
2 PREROLL Ⓗ
3 EDIT TRIG Ⓛ
4 SP CLOCK
5 SP DATA
6 GND
TO TIMER P7504 (Page: 3-64/B-20)
17
18
19
20
21
22
23
24
25
26
27
28
29

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

INPUT/OUTPUT CHART FOR IC6002 (M38024V1AZ)

PIN NO.	I/O	PORT NAME	PIN NO.	I/O	PORT NAME	PIN NO.	I/O	PORT NAME
1	O	OSD CLK	19	I	RESET (L)	38	I	LANGUAGE 2
2	O	OSD DATA	20	I	L CLK	39	I	LANGUAGE 1
3	O	OSD CS	21	I	5P CLK	40	I	LANGUAGE 0
4	O	OSD ON (H)	22	I	OSC IN	41-46	–	—
5, 6	–	—	23	O	OSC OUT	47	O	BUS SELECT (B)
7	I	L CLK CNT	24	–	GND	48	O	BUS SELECT (A)
8	–	—	25	O	JOG LED (H)	49	I	CHECK (L)
9	I	SYS CLK	26	O	EDIT 21P	50-56	–	—
10	O	SYS OUT	27	O	AV VTR (L)	57, 58	I	VDD
11	I	SYS IN	28-31	–	—	59	–	GND
12	O	DATA INH	32	O	EDIT (H)	60	I	EE DATA IN
13	I	CLK INPUT	33	I	TEST SIGNAL (H)	61	O	EE DATA OUT
14	O	DATA OUT	34	I	OSD SECAM (H)	62	O	EE CLK
15	I	DATA IN	35	O	INSIDE (H)	63	O	EE CS
16, 17	–	—	36	I	SERCH MUTE OK (H)	64	I	REC/P1/P2
18	–	GND	37	I	VITC OK (H)			

SYSTEM CONTROL & SERVO TRANSISTORs DC VOLTAGE CHART (SP MODE)

REF. NO.	Q2001			Q6001			Q6002			Q6003			Q6004			Q6005		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	5.0	4.8	5.0	5.1	14.4	5.6	5.1	0	5.0	5.2	5.4	5.9	5.0	5.0	5.7	0	4.9	0.1
PLAY	5.0	4.8	5.0	5.0	14.4	5.6	5.0	4.8	4.2	5.2	5.4	5.9	5.0	5.0	5.7	0	4.9	0.1
REC	5.0	4.8	4.9	4.9	14.3	5.6	4.9	4.8	4.2	5.2	5.4	5.9	5.0	5.0	5.5	0	4.9	0.1
F.F	5.0	4.8	5.0	5.0	14.3	5.6	5.0	4.9	4.2	5.2	5.4	5.9	5.0	5.0	5.7	0	4.8	0.1
REW	5.0	4.8	5.0	5.0	14.3	5.6	5.0	4.8	4.2	0	5.4	5.9	5.0	5.0	5.7	0	4.8	0.1
REF. NO.	Q6006			Q6008														
MODE	E	C	B	E	C	B												
STOP	0	4.7	0	5.0	5.1	5.8												
PLAY	0	4.7	0.1	5.0	5.1	5.8												
REC	0	4.9	0.1	5.0	5.1	0												
F.F	0	4.8	0.1	5.0	5.1	5.8												
REW	0	4.8	0.1	5.0	5.1	0												
REF. NO.	QR2001						QR2002			QR6001			QR6002			QR6003		
MODE	1	2	3	4	5		E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0	4.9	0	4.9		5.0	0	5.0	0	0	5.0	5.0	5.0	0	5.0	5.0	0
PLAY	0	0	4.9	0	4.9		5.0	0	5.0	0	0	5.0	5.0	5.0	0	5.0	5.0	0
REC	0	0	4.9	0	4.9		5.0	0	5.0	0	0	5.0	5.0	5.0	0	5.0	5.0	0
F.F	0	1.0	0	0	0		5.0	0	5.0	0	0	5.0	5.0	5.0	0	5.0	5.0	0
REW	0	1.0	0	0	0		5.0	0	5.0	0	0	5.0	5.0	5.0	0	5.0	5.0	0
REF. NO.	QR6004			QR6009						QR6012			QR6013			QR6014		
MODE	E	C	B	1	2	3	4	5		E	C	B	E	C	B	E	C	B
STOP	0	0.9	1.7	5.1	0	0	0	0		0	0.1	4.1	0	7.0	0	0	0	4.2
PLAY	0	0.9	1.7	0.5	0	0	0	0		0	0.1	4.1	0	7.3	0	0	0	4.2
REC	0	1.0	1.7	5.1	0	0	0	0		0	0.1	4.1	0	7.3	0	0	0	4.2
F.F	0	1.0	1.7	5.1	0	0	0	0		0	0.1	4.1	0	7.0	0	0	0	4.2
REW	0	0.9	1.7	5.1	0	0	0	0		0	0.1	4.1	0	7.0	0	0	0	4.2
REF. NO.	QR6015																	
MODE	E	C	B															
STOP	5.2	1.3	5.0															
PLAY	5.2	0.7	5.0															
REC	5.2	1.0	5.0															
F.F	5.2	1.3	5.0															
REW	5.2	1.3	5.0															

SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC2001																			
MODE	1	2	3	4	5	6	7	8												
STOP	0	5.0	0	0	0	5.0	0	5.0												
PLAY	0	5.0	0	0	0	5.0	0	5.0												
REC	0	4.9	0	0	0	5.0	0	5.0												
F.F	0	5.0	0	0	0	5.0	0	5.0												
REW	5.0	0	0	0	0	5.0	5.0	5.0												

REF. NO.	IC2002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	2.5	2.6	1.4	1.4	0.6	0	0	0	5.0	0	0	2.6	0	2.6	2.5	5.2				
PLAY	2.6	2.5	3.7	3.7	0.7	0	0	0	5.0	0	0	2.5	0	2.5	2.6	5.2				
REC	2.5	2.5	0.5	0.5	0.7	0	0	0	5.0	0	0	2.6	0	2.6	2.5	5.2				
F.F	2.5	2.5	2.5	2.4	0.7	0	0	0	5.0	0	0	2.6	0	2.6	2.5	5.2				
REW	2.5	2.6	3.5	3.5	0.6	0	0	0	5.0	0	0	2.6	0	2.6	2.6	5.2				

REF. NO.	IC2901																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
STOP	14.8	14.6	0.1	1.2	0.1	2.6	2.5	2.6	2.5	2.7	5.2	3.8	3.9	3.8	1.2	14.4	14.6	0.1		
PLAY	14.5	13.9	0.1	1.1	0.1	2.6	2.5	2.6	2.5	2.8	5.2	3.9	3.9	3.8	1.5	14.3	14.4	0.1		
REC	14.8	14.7	0.1	1.2	0.1	2.6	2.5	2.6	2.5	2.8	5.2	3.9	3.9	3.9	1.4	14.3	14.4	0.1		
F.F	14.1	13.8	0.1	1.1	0.1	2.6	2.5	2.6	2.5	2.8	5.2	3.9	3.8	3.8	1.5	14.3	13.7	0.1		
REW	14.5	13.5	0.1	1.1	0.1	2.6	2.5	2.6	2.5	2.8	5.2	3.8	3.8	3.9	1.5	14.3	14.5	0.1		

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	5.0	0	0	5.0	0.1	5.0	5.0	4.9	0.1	4.9	0	0	5.0	0.1	5.0	0	0	0	5.0	0
PLAY	0	0	0	5.0	5.0	5.0	5.0	5.0	0	4.9	0	0	0	0.1	5.0	0	0	0	5.0	0
REC	0	0	0	5.0	0.1	0	5.0	0	0.1	4.9	0	0	5.0	0.1	5.0	0	0	0	5.0	0
F.F	5.0	0	0	5.0	0.1	5.0	5.0	0	0.1	0	0	0	5.0	0.1	5.0	0	0	0	5.0	0
REW	5.0	0	0	5.0	0.1	5.0	5.0	0	0.1	0	0	0	5.0	0.1	5.0	0	0	0	5.0	0

REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	5.0	0	0.1	0	5.0	0	0	0	0	0	0	0	0	5.0	5.0	0	2.7	2.7	0	5.0
PLAY	5.0	0	0.1	0	5.0	0	0	0	0	0	0	0	0	5.0	5.0	0	2.7	2.7	0	0
REC	5.0	0	0.1	0	5.0	0	0	0	0	4.9	5.0	0	0	5.0	5.0	0	2.7	2.7	0	5.0
F.F	5.0	0	0.1	0	5.0	0	0	0	0	0	0	0	0	5.0	5.0	0	2.7	2.7	0	5.0
REW	5.0	0	0.1	0	5.0	0	0	0	0	0	0	0	0	5.0	5.0	0	2.7	2.7	0	0

REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	0	0	0	0	0	0.1	0	0	5.0	0	1.8	0.9	4.7	4.8	5.0	4.8	2.0	0	5.0	2.5
PLAY	0	0	0	0	0	0.1	0	0	5.0	4.2	1.7	0.9	4.8	4.8	5.0	4.8	0	5.0	3.8	2.5
REC	0	0	0	5.0	5.0	5.0	5.0	0	5.0	0	1.7	0.9	4.8	4.8	5.0	4.8	0	5.0	5.0	2.5
F.F	0	0	0	0	0	0.1	0	0	5.0	0	1.7	0.8	4.7	4.8	5.0	4.8	0	5.0	5.0	2.5
REW	0	0	0	0	0	0.1	0	0	5.0	0	1.7	0.9	4.5	4.8	5.0	4.8	5.0	5.0	5.0	2.5

REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0	4.6	5.0	0	4.0	5.0	2.5	0.3	3.5	5.0	5.0	2.5	2.5	1.5	0	0	2.5	2.5	2.4	2.6
PLAY	0	5.0	5.0	0	4.0	0	2.5	0.3	3.7	5.0	5.0	2.5	2.5	1.5	0	0	2.5	0	3.0	2.5
REC	0	5.0	5.0	0	4.5	0	2.5	0.3	3.8	5.0	5.0	2.5	0	0	0	0	2.5	2.5	2.4	2.6
F.F	0	4.0	5.0	0	2.8	5.0	2.5	0.3	3.7	2.0	5.0	2.5	0	1.2	0	0	2.5	2.5	2.5	2.6
REW	0	3.6	0	0	1.1	0	0	0.3	3.7	2.7	2.5	2.5	0	1.3	0	0	2.5	0	2.5	2.6

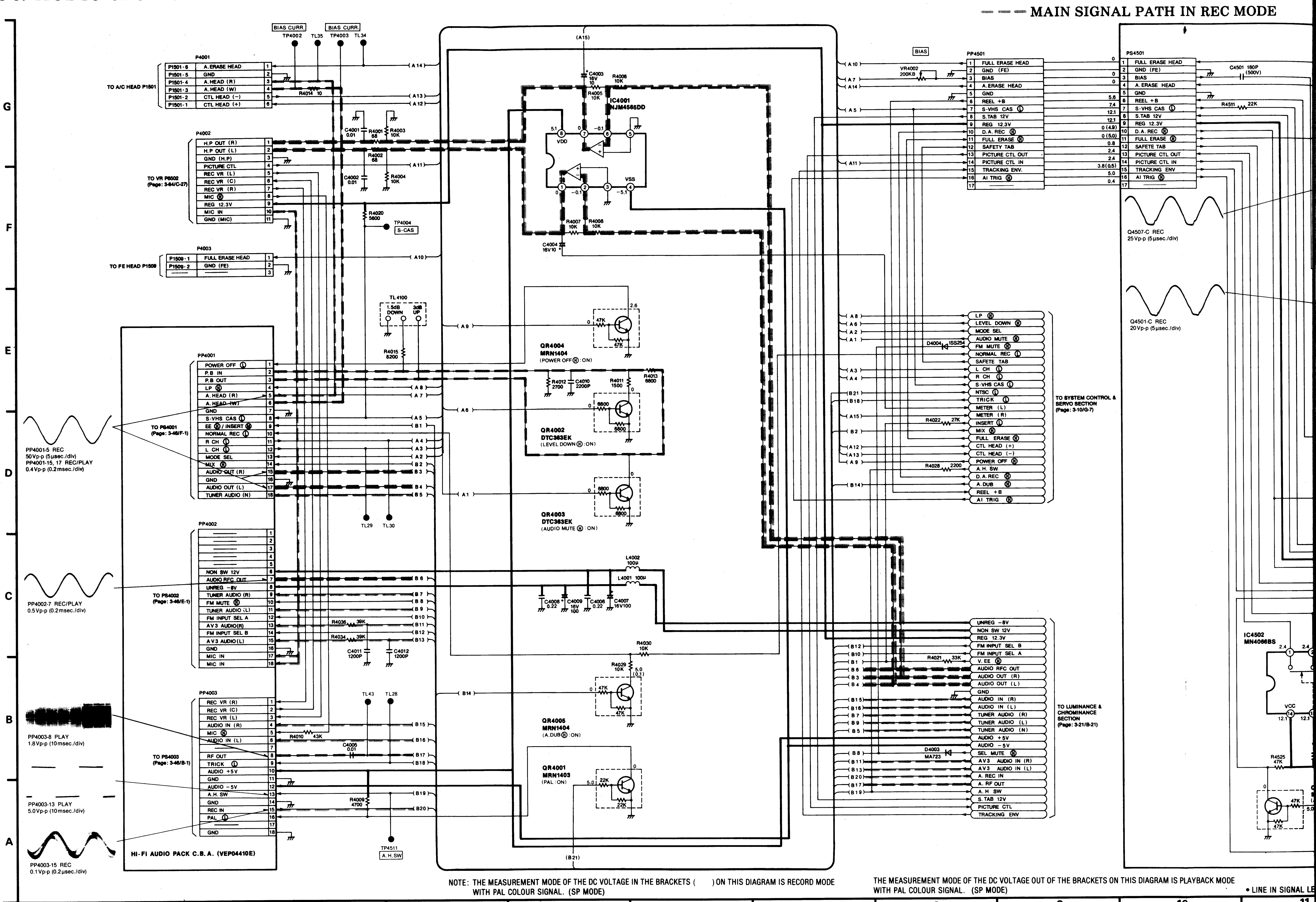
REF. NO.	IC6001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	4.9	0	0	0	2.5	2.5	0	2.7	2.5	5.0	1.4	2.5	5.0	5.0	5.0	5.3	5.0	3.5	0	3.5
PLAY	5.0	0	0	0	2.5	2.5	0	3.0	2.5	5.0	2.5	2.5	5.0	4.9	5.0	5.3	5.0	3.5	0	3.5
REC	4.9	3.7	3.9	0	2.5	2.5	0	2.7	2.5	5.0	2.7	2.5	5.0	4.9	4.8	5.3	5.0	3.5	0	3.5
F.F	5.0	0	0	0	2.5	0	0	3.1	2.5	5.0	2.3	2.5	0	4.9	4.9	5.3	5.0	3.5	0	3.5
REW	5.0	0	0	0	2.5	0	0	3.1	1.6	5.0	2.4	2.5	0	4.9	4.9	5.3	5.0	3.5	0	3.5

REF. NO.	IC6001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
STOP	3.5	5.0	3.1	0	0.3	0	5.0	5.0	5.0	0	5.0	0	4.5	5.0	0	0	5.0	5.0	0	0
PLAY	3.5	5.0	3.1	0	3.7	0	5.0	0.2	5.0	0	5.0	0	4.5	5.0	0	0	5.0	5.0	0	0
REC	0	0	3.1	0	0.5	0	5.0	0.2	5.0	0	5.0	0	4.5	5.0	0	0	5.0	5.0	0	0
F.F	0	0	3.1	0	2.6	0	5.0	0	5.0	0	5.0	0	4.5	5.0	0	5.0	5.0	5.0	0	0
REW	3.5	5.0	1.9	0	3.5	0	0	0	0	0	5.0	0	0	5.0	0	0	5.0	5.0	0	0

REF. NO.	IC6001																			
MODE	121	122	123	124																
STOP	0	5.0	0	5.0																
PLAY	0	5.0	0	5.0																
REC	0	5.0	0	5.0																
F.F	0	5.0	0	5.0																
REW	0	5.0	0	5.0																

REF. NO.	IC6002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	4.6	4.5	3.8	0	0	0	5.0	0	4.5	0.9	0.9	0.6	4.0	0.4	4.6	0	0	0	4.2	5.0
PLAY	4.7	4.5	4.3	0	0	0	5.0	0	4.5	1.0	1.0	0.6	4.0	0.3	4.7	0	0	0	4.2	5.0
REC	4.7	4.5	4.2	0	0	0	5.0	0	4.5	1.0	1.0	0.6	4.1	0.3	4.8	0	0	0	4.2	5.0
F.F	4.7	4.5	4.3	0	0	0	5.0	0	4.5	1.0	1.0	0.6	4.1	0.3	4.8	0	0	0	4.2	5.0
REW	4.7	4.7	4.3	0	0	0	5.0	0	4.5	1.0	1.0	0.6	4.1	0.3	5.0	0	0	0	4.2	5.0
REF. NO.	IC6002																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	4.8	2.2	2.2	0	0	0	5.0	5.0	5.0	0	0	5.0	0	0.2	0	0	5.0	0	0	5.0
PLAY	4.9	2.2	2.2	0	0	0	0	5.0	5.0	0	0	5.0	0	0.2	0	0	5.0	0	0	5.0
REC	4.9	2.2	2.2	0	0	0	5.0	5.0	5.0	0	0	5.0	0	0.2	0	0	5.0	0	0	5.0
F.F	4.9	2.2	2.2	0	0	0	5.0	5.0	5.0	0	0	5.0	0	0.2	0	0	5.0	0	0	5.0
REW	5.0	2.2	2.2	0	0	0	5.0	5.0	5.0	0	0	5.0	0	0.2	0	0	5.0	0	0	5.0
REF. NO.	IC6002																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	0	0	0	0	0	0	5.0	5.0	0	0	0	0	0	0	0	0	5.0	5.0	0	5.0
PLAY	0	0	0	0	0	0	5.0	5.0	0	0	0	0	0	0	0	0	5.0	5.0	0	5.0
REC	0	0	0	0	0	0	5.0	5.0	0	0	0	0	0	0	0	0	5.0	5.0	0	5.0
F.F	0	0	0	0	0	0	5.0	5.0	0	0	0	0	0	0	0	0	5.0	5.0	0	5.0
REW	0	0	0	0	0	0	5.0	5.0	0	0	0	0	0	0	0	0	5.0	5.0	0	5.0
REF. NO.	IC6002																			
MODE	61	62	63	64																
STOP	0.1	5.0	5.0	2.6																
PLAY	0.1	5.0	5.0	2.6																
REC	0.1	5.0	5.0	2.5																
F.F	0.1	5.0	5.0	2.6																
REW	0.1	5.0	5.0	2.6																
REF. NO.	IC6003																			
MODE	1	2	3																	
STOP	5.0	5.0	0																	
PLAY	5.0	5.0	0																	
REC	5.0	5.0	0																	
F.F	5.0	5.0	0																	
REW	5.0	5.0	0																	
REF. NO.	IC6005																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	4.8	4.8	4.0	4.0	5.0	0	0	0	5.0	5.0	4.9	4.8	4.6	5.0	4.6	5.0				
PLAY	4.8	4.8	4.1	4.0	5.0	0	0	0	5.0	5.0	4.7	4.8	4.9	5.0	4.6	5.0				
REC	4.8	4.8	4.1	4.1	5.0	0	0	0	5.0	5.0	4.9	4.9	4.9	5.0	4.6	5.0				
F.F	4.9	4.8	4.1	4.1	5.0	0	0	0	5.0	5.0	4.9	4.9	4.7	5.0	4.7	5.0				
REW	4.9	4.8	4.0	4.1	5.0	0	0	0	5.0	5.0	4.8	4.9	4.9	5.0	4.7	5.0				
REF. NO.	IC6007																			
MODE	1	2	3	4	5	6	7	8												
STOP	5.0	5.0	0.1	5.0	0	0	5.0	5.0												
PLAY	5.0	5.0	0.1	5.0	0	0	5.0	5.0												
REC	5.0	5.0	0.1	5.0	0	0	5.0	5.0												
F.F	5.0	5.0	0.1	5.0	0	0	5.0	5.0												
REW	5.0	5.0	0.1	5.0	0	0	5.0	5.0												

3-5. AUDIO SECTION IN MAIN & SUB AUDIO PACK SCHEMATIC DIAGRAM

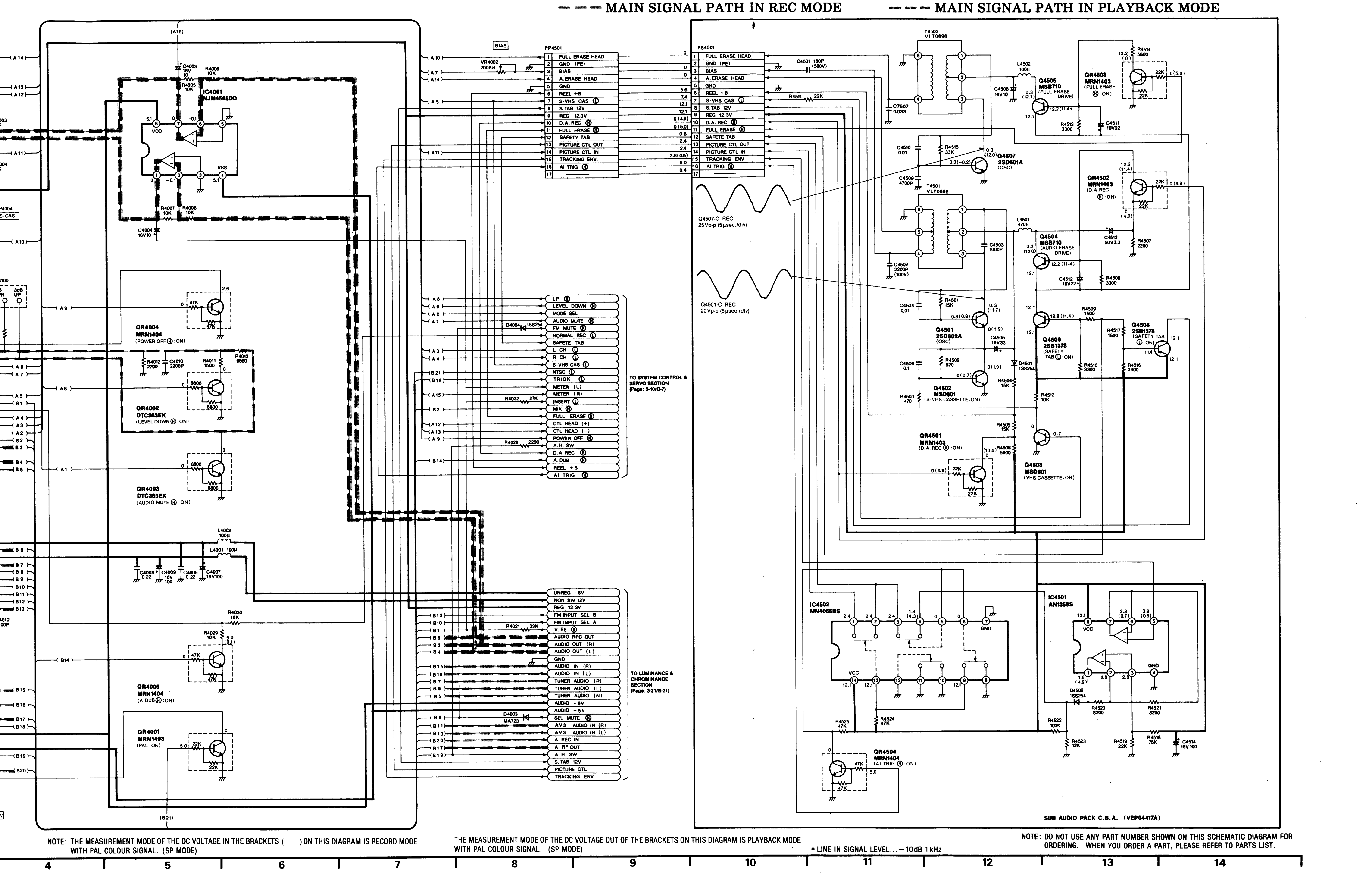

MAIN SIGNAL PATH IN REC MODE
BIAS CURR.
TP4002
TL35
TP4003
TL34
P4001
TO A/C HEAD P1501
A. ERASE HEAD
GND
A. HEAD (R)
A. HEAD (W)
CTL HEAD (-)
CTL HEAD (+)
P4002
TO VR P6502 (Page: 3-64/C-27)
H.P OUT (R)
H.P OUT (L)
GND (H.P)
PICTURE CTL
REC VR (L)
REC VR (C)
REC VR (R)
MIC
REG 12.3V
MIC IN
GND (MIC)
P4003
TO FE HEAD P1509
FULL ERASE HEAD
GND (FE)
TP4004
S-CAS
TL4100
1.5dB DOWN
3dB UP
IC4001
NJM4565DD
VDD
VSS
QR4004
MRN1404
(POWER OFF Ⓗ:ON)
QR4002
DTC363EK
(LEVEL DOWN Ⓗ:ON)
QR4003
DTC363EK
(AUDIO MUTE Ⓗ:ON)
QR4005
MRN1404
(A.DUB Ⓗ:ON)
QR4001
MRN1403
(PAL:ON)
PP4001
TO PS4001 (Page: 3-46/F-1)
POWER OFF
P.B IN
P.B OUT
LP
A. HEAD (R)
A. HEAD (W)
S-VHS CAS
EE / INSERT
NORMAL REC
R CH
L CH
MODE SEL
MIX
AUDIO OUT (R)
AUDIO OUT (L)
TUNER AUDIO (N)
PP4002
TO PS4002 (Page: 3-46/E-1)
NON SW 12V
AUDIO RFC OUT
UNREG -8V
TUNER AUDIO (R)
FM MUTE
TUNER AUDIO (L)
FM INPUT SEL A
AV3 AUDIO(R)
FM INPUT SEL B
AV3 AUDIO(L)
MIC IN
PP4003
TO PS4003 (Page: 3-46/B-1)
REC VR (R)
REC VR (C)
REC VR (L)
AUDIO IN (R)
AUDIO IN (L)
RF OUT
TRICK
AUDIO +5V
AUDIO -5V
A.H. SW
REC IN
PAL
HI-FI AUDIO PACK C.B.A. (VEP04410E)
TL29
TL30
TL43
TL28
TP4511
A.H.SW
PP4001-5 REC 50Vp-p (5μsec./div)
PP4001-15, 17 REC/PLAY 0.4Vp-p (0.2msec./div)
PP4002-7 REC/PLAY 0.5Vp-p (0.2msec./div)
PP4003-8 PLAY 1.8Vp-p (10msec./div)
PP4003-13 PLAY 5.0Vp-p (10msec./div)
PP4003-15 REC 0.1Vp-p (0.2μsec./div)
BIAS
VR4002 200KB
PP4501
PS4501
SAFETY TAB
PICTURE CTL OUT
PICTURE CTL IN
TRACKING ENV.
AI TRIG
D.A. REC
REEL +B
S.TAB 12V
C4501 180P (500V)
Q4507-C REC 25Vp-p (5μsec./div)
Q4501-C REC 20Vp-p (5μsec./div)
TO SYSTEM CONTROL & SERVO SECTION (Page: 3-10/G-7)
LEVEL DOWN
AUDIO MUTE
NORMAL REC
SAFETE TAB
NTSC
METER (L)
METER (R)
INSERT
FULL ERASE
POWER OFF
A.H. SW
A. DUB
TO LUMINANCE & CHROMINANCE SECTION (Page: 3-21/B-21)
V. EE
AUDIO +5V
AUDIO -5V
SEL MUTE
AV3 AUDIO IN (R)
AV3 AUDIO IN (L)
A. REC IN
A. RF OUT
PICTURE CTL
TRACKING ENV
D4004 1SS254
D4003 MA723
IC4502 MN4066BS
L4002 100μ
L4001 100μ
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

• LINE IN SIGNAL L

DIO PACK SCHEMATIC DIAGRAM



MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
IC4001 NJM4565DD
VDD
VSS
C4003 16V 10
R4005 10K
R4006 10K
R4007 10K
R4008 10K
C4004 16V10
QR4004 MRN1404 (POWER OFF Ⓗ:ON)
QR4002 DTC363EK (LEVEL DOWN Ⓗ:ON)
R4012 2700
C4010 2200P
R4011 1500
R4013 6800
QR4003 DTC363EK (AUDIO MUTE Ⓗ:ON)
L4002 100μ
L4001 100μ
C4008 0.22
C4009 16V 100
C4006 0.22
C4007 16V100
R4030 10K
R4029 10K
QR4005 MRN1404 (A.DUB Ⓗ:ON)
QR4001 MRN1403 (PAL:ON)
BIAS
VR4002 200KB
PP4501
FULL ERASE HEAD
GND (FE)
BIAS
A.ERASE HEAD
GND
REEL +B
S-VHS CAS Ⓛ
S.TAB 12V
REG 12.3V
D.A. REC Ⓗ
FULL ERASE Ⓗ
SAFETY TAB
PICTURE CTL OUT
PICTURE CTL IN
TRACKING ENV.
AI TRIG Ⓗ
LP Ⓗ
LEVEL DOWN Ⓗ
MODE SEL
AUDIO MUTE Ⓗ
FM MUTE Ⓗ
NORMAL REC Ⓛ
SAFETE TAB
L CH Ⓛ
R CH Ⓛ
S-VHS CAS Ⓛ
NTSC Ⓛ
TRICK Ⓛ
METER (L)
METER (R)
INSERT Ⓛ
MIX Ⓗ
FULL ERASE Ⓗ
CTL HEAD (+)
CTL HEAD (−)
POWER OFF Ⓗ
A.H. SW
D.A.REC Ⓗ
A.DUB Ⓗ
REEL +B
AI TRIG Ⓗ
D4004 1SS254
R4022 27K
R4028 2200
TO SYSTEM CONTROL & SERVO SECTION (Page: 3-10/G-7)
UNREG −8V
NON SW 12V
REG 12.3V
FM INPUT SEL B
FM INPUT SEL A
V. EE Ⓗ
AUDIO RFC OUT
AUDIO OUT (R)
AUDIO OUT (L)
GND
AUDIO IN (R)
AUDIO IN (L)
TUNER AUDIO (R)
TUNER AUDIO (L)
TUNER AUDIO (N)
AUDIO +5V
AUDIO −5V
SEL MUTE Ⓗ
AV3 AUDIO IN (R)
AV3 AUDIO IN (L)
A. REC IN
A. RF OUT
A. H SW
S. TAB 12V
PICTURE CTL
TRACKING ENV
R4021 33K
D4003 MA723
TO LUMINANCE & CHROMINANCE SECTION (Page: 3-21/B-21)
PS4501
FULL ERASE HEAD
GND (FE)
BIAS
A. ERASE HEAD
GND
REEL +B
S-VHS CAS Ⓛ
S.TAB 12V
REG 12.3V
D.A. REC Ⓗ
FULL ERASE Ⓗ
SAFETE TAB
PICTURE CTL OUT
PICTURE CTL IN
TRACKING ENV
AI TRIG Ⓗ
C4501 180P (500V)
R4511 22K
C7507 0.033
Q4507-C REC 25Vp-p (5μsec./div)
Q4501-C REC 20Vp-p (5μsec./div)
T4502 VLT0696
T4501 VLT0695
C4510 0.01
R4515 33K
C4509 4700P
Q4507 2SD601A (OSC)
C4502 2200P (100V)
C4503 1000P
L4502 100μ
C4508 16V10
Q4505 MSB710 (FULL ERASE DRIVE)
R4513 3300
C4511 10V22
QR4503 MRN1403 (FULL ERASE Ⓗ:ON)
R4514 5600
QR4502 MRN1403 (D.A.REC Ⓗ:ON)
L4501 470μ
Q4504 MSB710 (AUDIO ERASE DRIVE)
C4513 50V3.3
R4507 2200
C4512 10V22
R4508 3300
C4504 0.01
R4501 15K
Q4501 2SD602A (OSC)
C4505 16V33
C4506 0.1
R4502 820
D4501 1SS254
R4503 470
Q4502 MSD601 (S-VHS CASSETTE:ON)
R4504 15K
Q4506 2SB1378 (SAFETY TAB Ⓛ:ON)
R4509 1500
R4517 1500
R4510 3300
R4516 3300
Q4508 2SB1378 (SAFETY TAB Ⓛ:ON)
R4512 10K
R4505 15K
R4506 5600
QR4501 MRN1403 (D.A.REC Ⓗ:ON)
Q4503 MSD601 (VHS CASSETTE:ON)
IC4502 MN4066BS
VCC
GND
IC4501 AN1358S
D4502 1SS254
R4520 8200
R4521 8200
R4522 100K
R4523 12K
R4519 22K
R4518 75K
C4514 16V100
R4525 47K
R4524 47K
QR4504 MRN1404 (AI TRIG Ⓗ:ON)
SUB AUDIO PACK C.B.A. (VEP04417A)
4
5
6
7
8
9
10
11
12
13
14

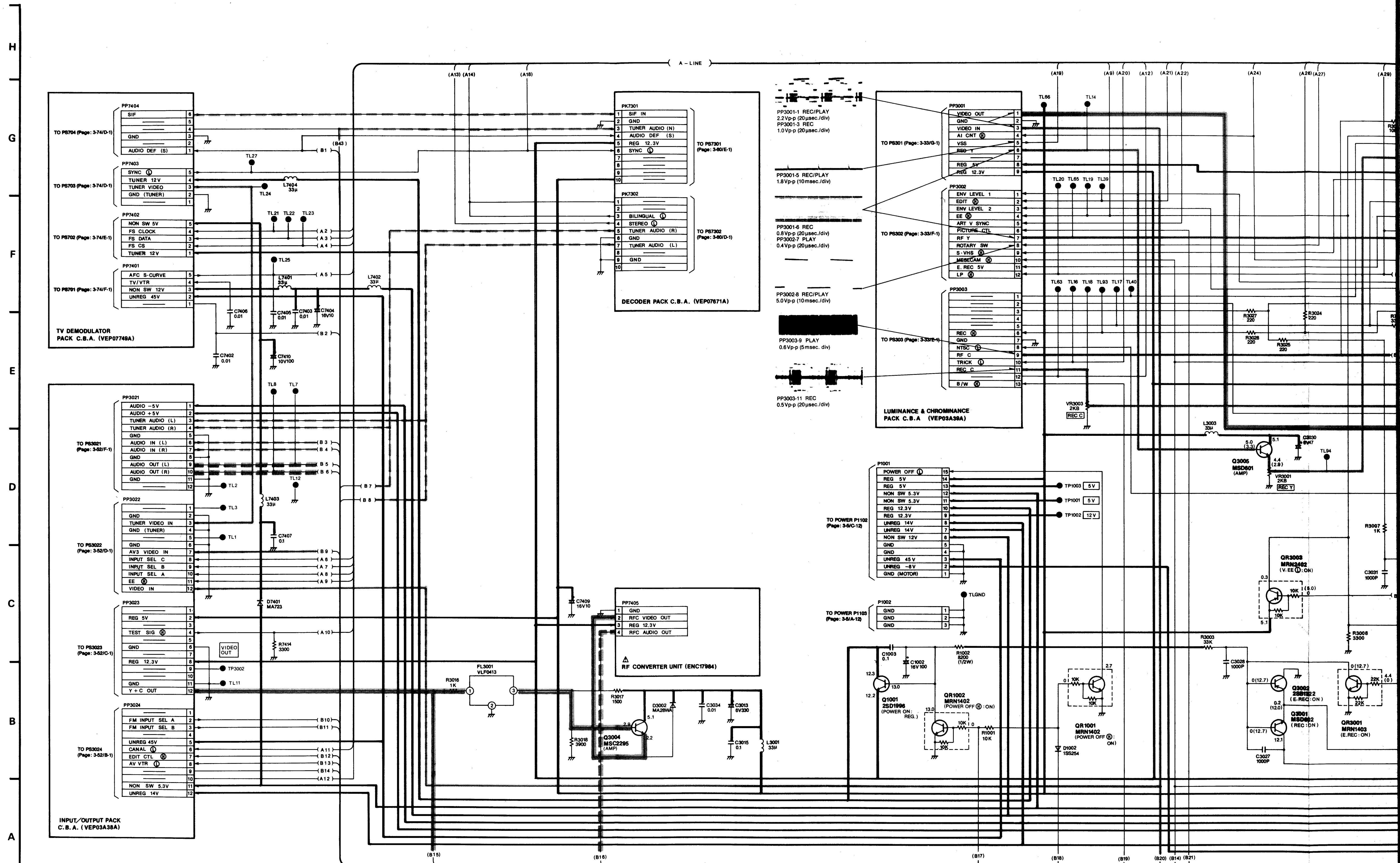
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

- LINE IN SIGNAL LEVEL…−10dB 1kHz

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-6. LUMINANCE & CHROMINANCE SECTION IN MAIN SCHEMATIC DIAGRAM

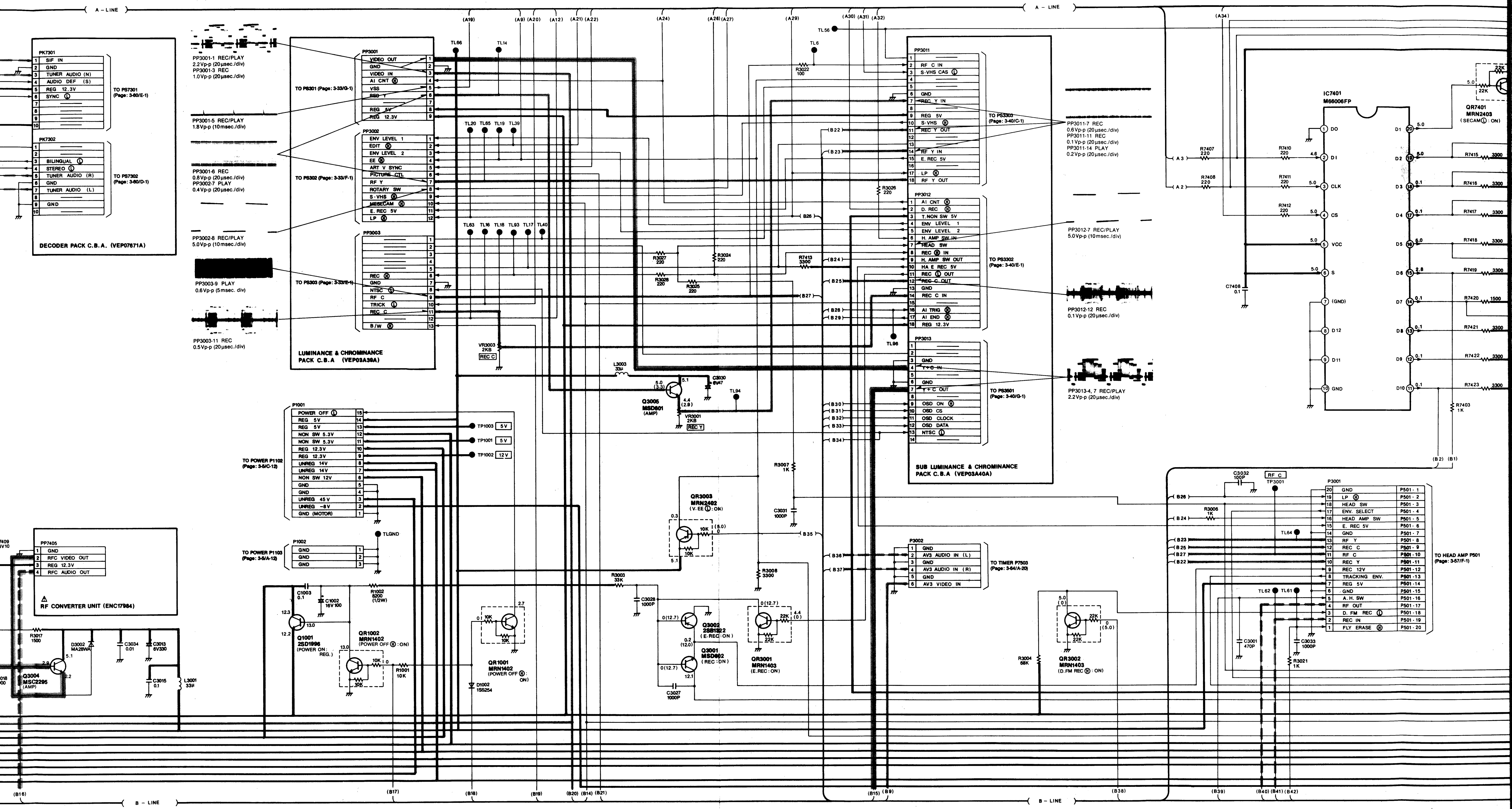

H
G
F
E
D
C
B
A
A – LINE
B – LINE
(A13) (A14) (A18) (A19) (A9) (A20) (A12) (A21) (A22) (A24) (A26) (A27) (A29)
(B15) (B16) (B17) (B18) (B19) (B20) (B14) (B21)
TV DEMODULATOR
PACK C.B.A. (VEP07749A)
PP7404
SIF 6
5
4
GND 3
2
AUDIO DEF (S) 1
TO PS704 (Page: 3-74/D-1)
PP7403
SYNC Ⓛ 5
TUNER 12V 4
TUNER VIDEO 3
GND (TUNER) 2
1
TO PS703 (Page: 3-74/D-1)
PP7402
NON SW 5V 5
FS CLOCK 4
FS DATA 3
FS CS 2
TUNER 12V 1
TO PS702 (Page: 3-74/E-1)
PP7401
AFC S-CURVE 5
TV/VTR 4
NON SW 12V 3
UNREG 45V 2
1
TO PS701 (Page: 3-74/F-1)
(B43)
(B1)
TL27
TL24
L7404 33µ
TL21 TL22 TL23
(A2) (A3) (A4)
TL25
(A5)
L7401 33µ
L7402 33µ
C7406 0.01
C7405 0.01
C7403 0.01
C7404 16V10
(B2)
C7402 0.01
C7410 10V100
TL8 TL7
INPUT/OUTPUT PACK
C.B.A. (VEP03A38A)
PP3021
AUDIO −5V 1
AUDIO +5V 2
TUNER AUDIO (L) 3
TUNER AUDIO (R) 4
GND 5
AUDIO IN (L) 6
AUDIO IN (R) 7
GND 8
AUDIO OUT (L) 9
AUDIO OUT (R) 10
GND 11
12
TO PS3021 (Page: 3-52/F-1)
(B3) (B4) (B5) (B6)
TL12
TL2
(B7) (B8)
PP3022
1
GND 2
TUNER VIDEO IN 3
GND (TUNER) 4
5
GND 6
AV3 VIDEO IN 7
INPUT SEL C 8
INPUT SEL B 9
INPUT SEL A 10
EE Ⓗ 11
VIDEO IN 12
TO PS3022 (Page: 3-52/D-1)
TL3
L7403 33µ
TL1
C7407 0.1
(B9) (A6) (A7) (A8) (A9)
PP3023
1
REG 5V 2
3
TEST SIG Ⓗ 4
5
GND 6
7
REG 12.3V 8
9
10
GND 11
Y + C OUT 12
TO PS3023 (Page: 3-52/C-1)
D7401 MA723
(A10)
R7414 3300
VIDEO OUT
TP3002
TL11
PP3024
1
FM INPUT SEL A 2
FM INPUT SEL B 3
4
UNREG 45V 5
CANAL Ⓛ 6
EDIT CTL Ⓗ 7
AV VTR Ⓛ 8
9
10
NON SW 5.3V 11
UNREG 14V 12
TO PS3024 (Page: 3-52/B-1)
(B10) (B11) (A11) (B12) (B13) (B14) (A12)
DECODER PACK C.B.A. (VEP07671A)
PK7301
1 SIF IN
2 GND
3 TUNER AUDIO (N)
4 AUDIO DEF (S)
5 REG 12.3V
6 SYNC Ⓛ
7
8
9
10
TO PS7301 (Page: 3-60/E-1)
PK7302
1
2
3 BILINGUAL Ⓛ
4 STEREO Ⓛ
5 TUNER AUDIO (R)
6 GND
7 TUNER AUDIO (L)
8
9 GND
10
TO PS7302 (Page: 3-60/D-1)
C7409 16V10
PP7405
1 GND
2 RFC VIDEO OUT
3 REG 12.3V
4 RFC AUDIO OUT
⚠ RF CONVERTER UNIT (ENC17984)
FL3001 VLF0413
R3016 1K
R3017 1500
R3018 3900
D3002 MA26WA
C3034 0.01
C3013 6V330
C3015 0.1
L3001 33µ
Q3004 MSC2295 (AMP)
2.9 5.1 2.2
PP3001-1 REC/PLAY
2.2Vp-p (20µsec./div)
PP3001-3 REC
1.0Vp-p (20µsec./div)
PP3001-5 REC/PLAY
1.8Vp-p (10msec./div)
PP3001-6 REC
0.8Vp-p (20µsec./div)
PP3002-7 PLAY
0.4Vp-p (20µsec./div)
PP3002-8 REC/PLAY
5.0Vp-p (10msec./div)
PP3003-9 PLAY
0.6Vp-p (5msec. div)
PP3003-11 REC
0.5Vp-p (20µsec./div)
LUMINANCE & CHROMINANCE
PACK C.B.A (VEP03A39A)
PP3001
VIDEO OUT 1
GND 2
VIDEO IN 3
AI CNT Ⓗ 4
VSS 5
REC Y 6
7
REG 5V 8
REG 12.3V 9
TO PS301 (Page: 3-33/G-1)
PP3002
ENV LEVEL 1 1
EDIT Ⓗ 2
ENV LEVEL 2 3
EE Ⓗ 4
ART V SYNC 5
PICTURE CTL 6
RF Y 7
ROTARY SW 8
S-VHS Ⓗ 9
MESECAM Ⓗ 10
E. REC 5V 11
LP Ⓗ 12
TO PS302 (Page: 3-33/F-1)
PP3003
1
2
3
4
5
REC Ⓗ 6
GND 7
NTSC Ⓛ 8
RF C 9
TRICK Ⓛ 10
REC C 11
12
B/W Ⓗ 13
TO PS303 (Page: 3-33/E-1)
TL66 TL14
TL20 TL65 TL19 TL39
TL63 TL16 TL18 TL93 TL17 TL40
R3027 220
R3028 220
R3025 220
R3024 220
VR3003 2KB
REC C
L3003 33µ
Q3005 MSD601 (AMP)
5.0 (3.3) 5.1 4.4 (2.9)
C3030 6V47
TL94
VR3001 2KB
REC Y
P1001
POWER OFF Ⓛ 15
REG 5V 14
REG 5V 13
NON SW 5.3V 12
NON SW 5.3V 11
REG 12.3V 10
REG 12.3V 9
UNREG 14V 8
UNREG 14V 7
NON SW 12V 6
GND 5
GND 4
UNREG 45 V 3
UNREG −8 V 2
GND (MOTOR) 1
TO POWER P1102 (Page: 3-5/C-12)
TP1003 5 V
TP1001 5 V
TP1002 12 V
TLGND
P1002
GND 1
GND 2
GND 3
TO POWER P1103 (Page: 3-5/A-12)
C1003 0.1
C1002 16V100
R1002 8200 (1/2W)
12.3 13.0 12.2
Q1001 2SD1996 (POWER ON: REG.)
QR1002 MRN1402 (POWER OFF Ⓗ: ON)
13.0 10K 0 10K
R1001 10K
D1002 1SS254
0 10K 10K 2.7
QR1001 MRN1402 (POWER OFF Ⓗ: ON)
R3007 1K
QR3003 MRN2402 (V. EE Ⓛ: ON)
0.3 10K (5.0) 0 10K 5.1
C3031 1000P
R3003 33K
C3028 1000P
R3008 3300
0(12.7)
Q3002 2SB1322 (E.REC: ON)
0.2 (12.0)
Q3001 MSD602 (REC: ON)
0(12.7) 12.1
C3027 1000P
0(12.7) 22K 22K 4.4 (0)
QR3001 MRN1403 (E.REC: ON)
1 2 3 4 5 6 7 8 9 10 11 12

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

EMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE

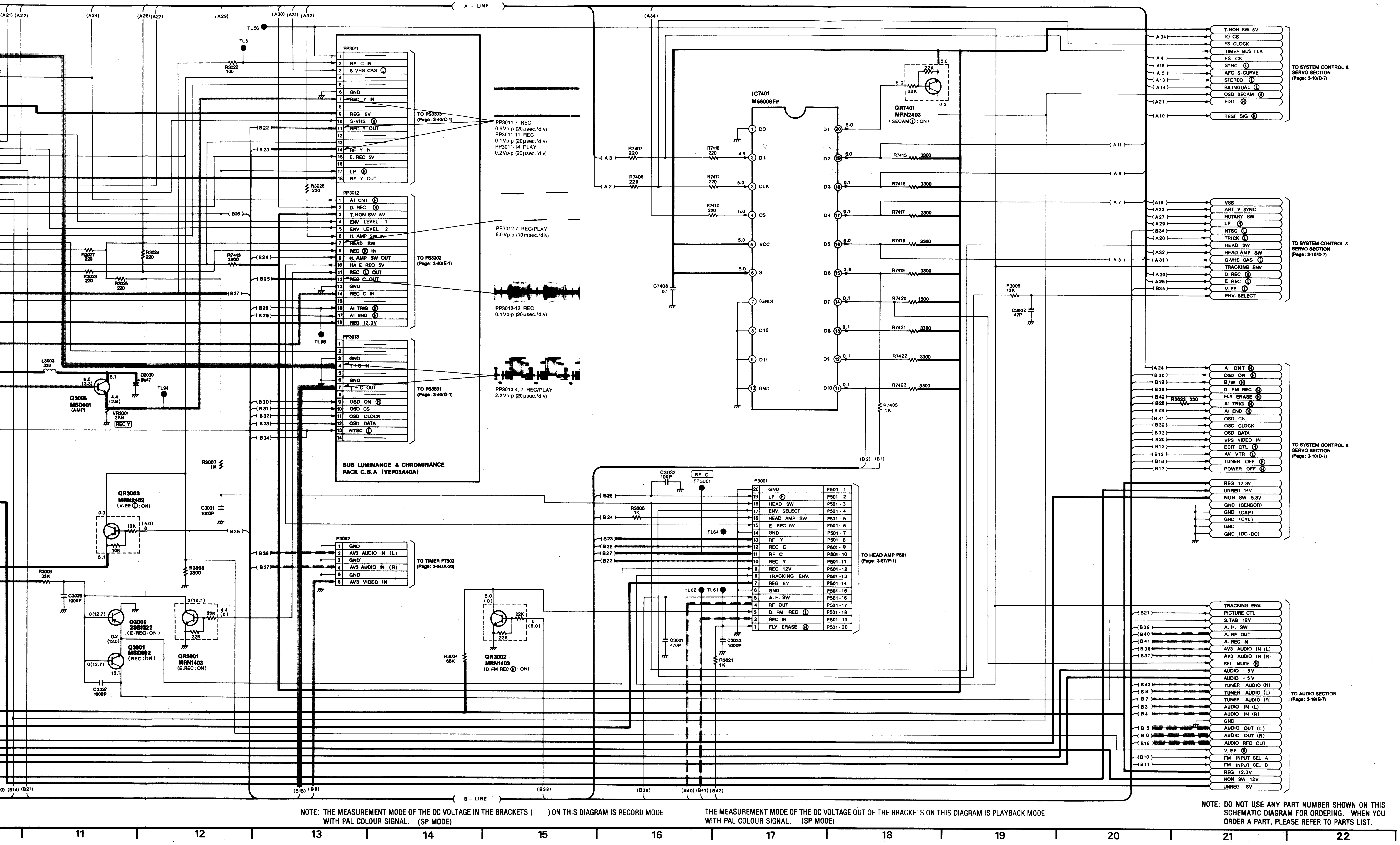
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE


A - LINE
B - LINE
PK7301
PK7302
DECODER PACK C.B.A. (VEP07671A)
TO PS7301 (Page: 3-60/E-1)
TO PS7302 (Page: 3-60/D-1)
PP3001-1 REC/PLAY 2.2Vp-p (20µsec./div)
PP3001-3 REC 1.0Vp-p (20µsec./div)
PP3001-5 REC/PLAY 1.8Vp-p (10msec./div)
PP3001-6 REC 0.8Vp-p (20µsec./div)
PP3002-7 PLAY 0.4Vp-p (20µsec./div)
PP3002-8 REC/PLAY 5.0Vp-p (10msec./div)
PP3003-9 PLAY 0.6Vp-p (5msec. div)
PP3003-11 REC 0.5Vp-p (20µsec./div)
TO PS301 (Page: 3-33/G-1)
TO PS302 (Page: 3-33/F-1)
TO PS303 (Page: 3-33/E-1)
PP3001
PP3002
PP3003
LUMINANCE & CHROMINANCE PACK C.B.A (VEP03A39A)
PP3011
PP3012
PP3013
SUB LUMINANCE & CHROMINANCE PACK C.B.A (VEP03A40A)
TO PS3303 (Page: 3-40/C-1)
TO PS3302 (Page: 3-40/E-1)
TO PS3501 (Page: 3-40/G-1)
PP3011-7 REC 0.6Vp-p (20µsec./div)
PP3011-11 REC 0.1Vp-p (20µsec./div)
PP3011-14 PLAY 0.2Vp-p (20µsec./div)
PP3012-7 REC/PLAY 5.0Vp-p (10msec./div)
PP3012-12 REC 0.1Vp-p (20µsec./div)
PP3013-4, 7 REC/PLAY 2.2Vp-p (20µsec./div)
IC7401 M66006FP
QR7401 MRN2403 (SECAM Ⓛ: ON)
P1001
TO POWER P1102 (Page: 3-5/C-12)
P1002
TO POWER P1103 (Page: 3-5/A-12)
PP7405
RF CONVERTER UNIT (ENC17984)
Q3004 MSC2295 (AMP)
Q1001 2SD1996 (POWER ON: REG.)
QR1002 MRN1402 (POWER OFF Ⓗ: ON)
QR1001 MRN1402 (POWER OFF Ⓗ: ON)
Q3005 MSD601 (AMP)
QR3003 MRN2402 (V.EE Ⓛ: ON)
Q3002 2SB1322 (E-REC: ON)
Q3001 MSD602 (REC: ON)
QR3001 MRN1403 (E.REC: ON)
QR3002 MRN1403 (D.FM REC Ⓗ: ON)
P3002
TO TIMER P7503 (Page: 3-64/A-20)
P3001
TO HEAD AMP P501 (Page: 3-57/F-1)
6
7
8
9
10
11
12
13
14
15
16
17
18

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON WITH PAL COLOUR SIGNAL. (SP MODE)

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

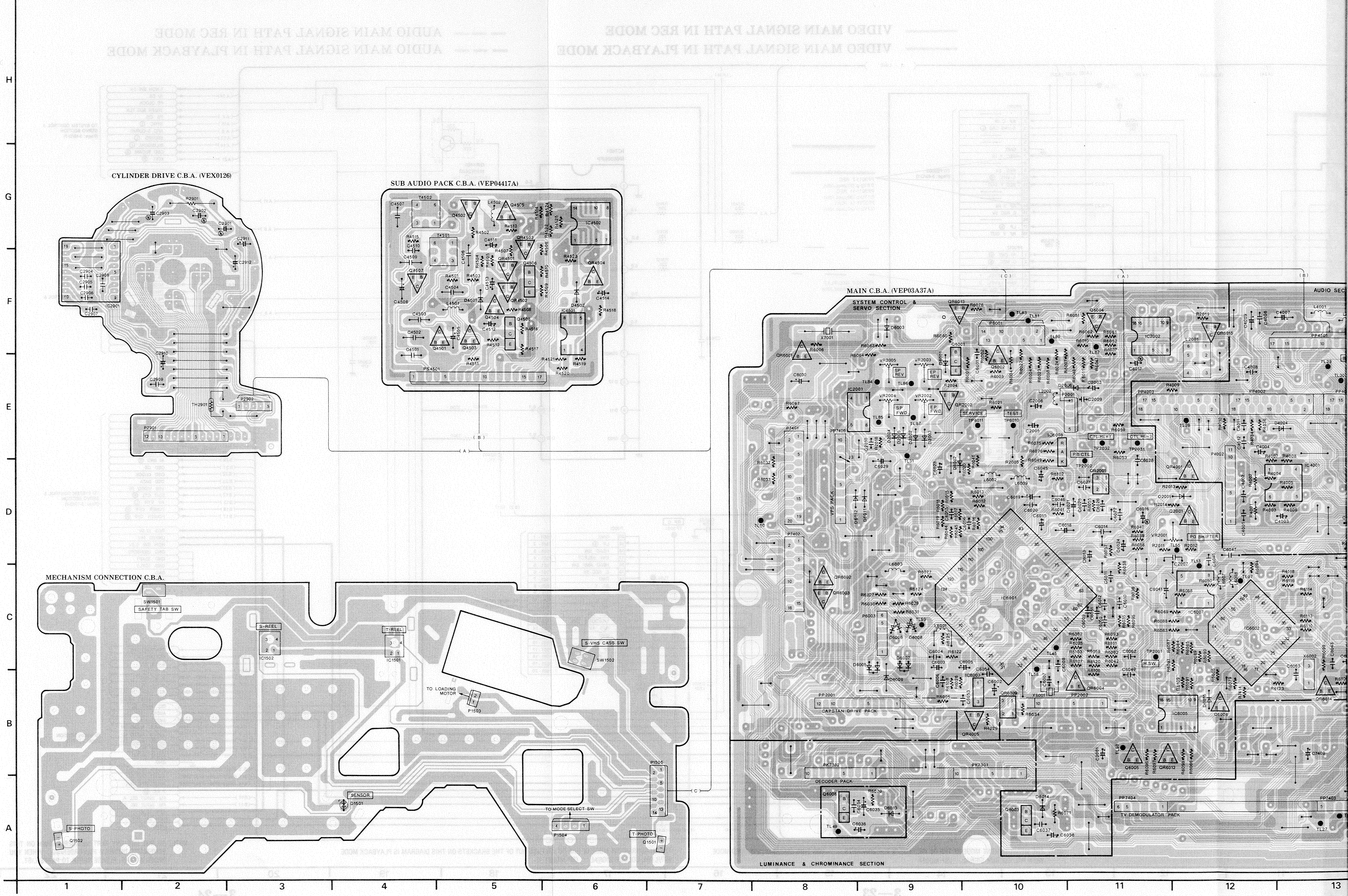

A – LINE
B – LINE
(A21) (A22) (A24) (A26) (A27) (A29) (A30) (A31) (A32) (A34)
TL56
TL6
R3022 100
R3026 220
R3027 220
R3028 220
R3024 220
R3025 220
R7413 3300
(B22) (B23) (B24) (B25) (B26) (B27) (B28) (B29)
(B30) (B31) (B32) (B33) (B34) (B35) (B36) (B37)
PP3011
1 —
2 RF C IN
3 S-VHS CAS Ⓛ
4 —
5 —
6 GND
7 REC Y IN
8 —
9 REG 5V
10 S-VHS Ⓗ
11 REC Y OUT
12 —
13 —
14 RF Y IN
15 E. REC 5V
16 —
17 LP Ⓗ
18 RF Y OUT
TO PS3303 (Page: 3-40/C-1)
PP3011-7 REC
0.6Vp-p (20μsec./div)
PP3011-11 REC
0.1Vp-p (20μsec./div)
PP3011-14 PLAY
0.2Vp-p (20μsec./div)
PP3012
1 AI CNT Ⓗ
2 D. REC Ⓗ
3 T.NON SW 5V
4 ENV LEVEL 1
5 ENV LEVEL 2
6 H. AMP SW IN
7 HEAD SW
8 REC Ⓗ IN
9 H. AMP SW OUT
10 HA E REC 5V
11 REC Ⓛ OUT
12 REC C OUT
13 GND
14 REC C IN
15 —
16 AI TRIG Ⓗ
17 AI END Ⓗ
18 REG 12.3V
TO PS3302 (Page: 3-40/E-1)
PP3012-7 REC/PLAY
5.0Vp-p (10msec./div)
PP3012-12 REC
0.1Vp-p (20μsec./div)
TL96
PP3013
1 —
2 —
3 GND
4 Y+C IN
5 —
6 GND
7 Y+C OUT
8 —
9 OSD ON Ⓗ
10 OSD CS
11 OSD CLOCK
12 OSD DATA
13 NTSC Ⓛ
14 —
TO PS3501 (Page: 3-40/G-1)
PP3013-4, 7 REC/PLAY
2.2Vp-p (20μsec./div)
SUB LUMINANCE & CHROMINANCE PACK C.B.A (VEP03A40A)
L3003 33μ
5.0 (3.3)
5.1
C3030 6V47
TL94
4.4 (2.9)
Q3005 MSD601 (AMP)
VR3001 2KB
REC Y
R3007 1K
C3031 1000P
QR3003 MRN2402 (V.EE Ⓛ:ON)
0.3
10K
(5.0) 0
10K
5.1
R3003 33K
C3028 1000P
R3008 3300
0(12.7)
Q3002 2SB1322 (E.REC:ON)
0.2 (12.0)
Q3001 MSD602 (REC:ON)
0(12.7)
12.1
C3027 1000P
0(12.7)
22K
4.4 (0)
22K
QR3001 MRN1403 (E.REC:ON)
P3002
1 GND
2 AV3 AUDIO IN (L)
3 GND
4 AV3 AUDIO IN (R)
5 GND
6 AV3 VIDEO IN
TO TIMER P7503 (Page: 3-64/A-20)
5.0 (0)
22K
0 (5.0)
22K
R3004 68K
QR3002 MRN1403 (D.FM REC Ⓗ : ON)
(B14) (B21) (B15) (B9) (B38) (B39) (B40) (B41) (B42)
(A3) (A2)
R7407 220
R7408 220
R7410 220
R7411 220
R7412 220
4.6
5.0
5.0
5.0
5.0
C7408 0.1
IC7401 M66006FP
1 DO
2 DI
3 CLK
4 CS
5 VCC
6 S
7 (GND)
8 D12
9 D11
10 GND
D1 20 5.0
D2 19 5.0
D3 18 0.1
D4 17 0.1
D5 16 5.0
D6 15 2.8
D7 14 0.1
D8 13 0.1
D9 12 0.1
D10 11 0.1
R7415 3300
R7416 3300
R7417 3300
R7418 3300
R7419 3300
R7420 1500
R7421 3300
R7422 3300
R7423 3300
R7403 1K
(B2) (B1)
5.0
22K
5.0
22K
0.2
QR7401 MRN2403 (SECAM Ⓛ : ON)
(A11) (A6) (A7) (A8)
R3005 10K
C3002 47P
C3032 100P
RF C
TP3001
R3006 1K
TL64
TL62 TL61
C3001 470P
C3033 1000P
R3021 1K
P3001
20 GND P501 - 1
19 LP Ⓗ P501 - 2
18 HEAD SW P501 - 3
17 ENV. SELECT P501 - 4
16 HEAD AMP SW P501 - 5
15 E. REC 5V P501 - 6
14 GND P501 - 7
13 RF Y P501 - 8
12 REC C P501 - 9
11 RF C P501 - 10
10 REC Y P501 - 11
9 REC 12V P501 - 12
8 TRACKING ENV. P501 - 13
7 REG 5V P501 - 14
6 GND P501 - 15
5 A. H. SW P501 - 16
4 RF OUT P501 - 17
3 D. FM REC Ⓛ P501 - 18
2 REC IN P501 - 19
1 FLY ERASE Ⓗ P501 - 20
TO HEAD AMP P501 (Page: 3-57/F-1)
T.NON SW 5V
(A34) IO CS
FS CLOCK
TIMER BUS TLK
(A4) FS CS
(A18) SYNC Ⓛ
(A5) AFC S-CURVE
(A13) STEREO Ⓛ
(A14) BILINGUAL Ⓛ
OSD SECAM Ⓗ
(A21) EDIT Ⓗ
(A10) TEST SIG Ⓗ
TO SYSTEM CONTROL & SERVO SECTION (Page: 3-10/D-7)
(A19) VSS
(A22) ART V SYNC
(A27) ROTARY SW
(A29) LP Ⓗ
(B34) NTSC Ⓛ
(A20) TRICK Ⓛ
HEAD SW
(A32) HEAD AMP SW
(A31) S-VHS CAS Ⓛ
TRACKING ENV
(A30) D. REC Ⓗ
(A26) E. REC Ⓛ
(B35) V. EE Ⓛ
ENV. SELECT
TO SYSTEM CONTROL & SERVO SECTION (Page: 3-10/D-7)
(A24) AI CNT Ⓗ
(B30) OSD ON Ⓗ
(B19) B/W Ⓗ
(B38) D. FM REC Ⓗ
(B42) FLY ERASE Ⓗ
(B28) R3023 220 AI TRIG Ⓗ
(B29) AI END Ⓗ
(B31) OSD CS
(B32) OSD CLOCK
(B33) OSD DATA
(B20) VPS VIDEO IN
(B12) EDIT CTL Ⓗ
(B13) AV VTR Ⓛ
(B18) TUNER OFF Ⓗ
(B17) POWER OFF Ⓗ
REG 12.3V
UNREG 14V
NON SW 5.3V
GND (SENSOR)
GND (CAP)
GND (CYL)
GND
GND (DC-DC)
TO SYSTEM CONTROL & SERVO SECTION (Page: 3-10/D-7)
TRACKING ENV.
(B21) PICTURE CTL
S.TAB 12V
(B39) A. H. SW
(B40) A. RF OUT
(B41) A. REC IN
(B36) AV3 AUDIO IN (L)
(B37) AV3 AUDIO IN (R)
SEL MUTE Ⓗ
AUDIO – 5V
AUDIO + 5V
(B43) TUNER AUDIO (N)
(B8) TUNER AUDIO (L)
(B7) TUNER AUDIO (R)
(B3) AUDIO IN (L)
(B4) AUDIO IN (R)
GND
(B5) AUDIO OUT (L)
(B6) AUDIO OUT (R)
(B16) AUDIO RFC OUT
V. EE Ⓗ
(B10) FM INPUT SEL A
(B11) FM INPUT SEL B
REG 12.3V
NON SW 12V
UNREG –8V
TO AUDIO SECTION (Page: 3-18/B-7)
11
12
13
14
15
16
17
18
19
20
21
22

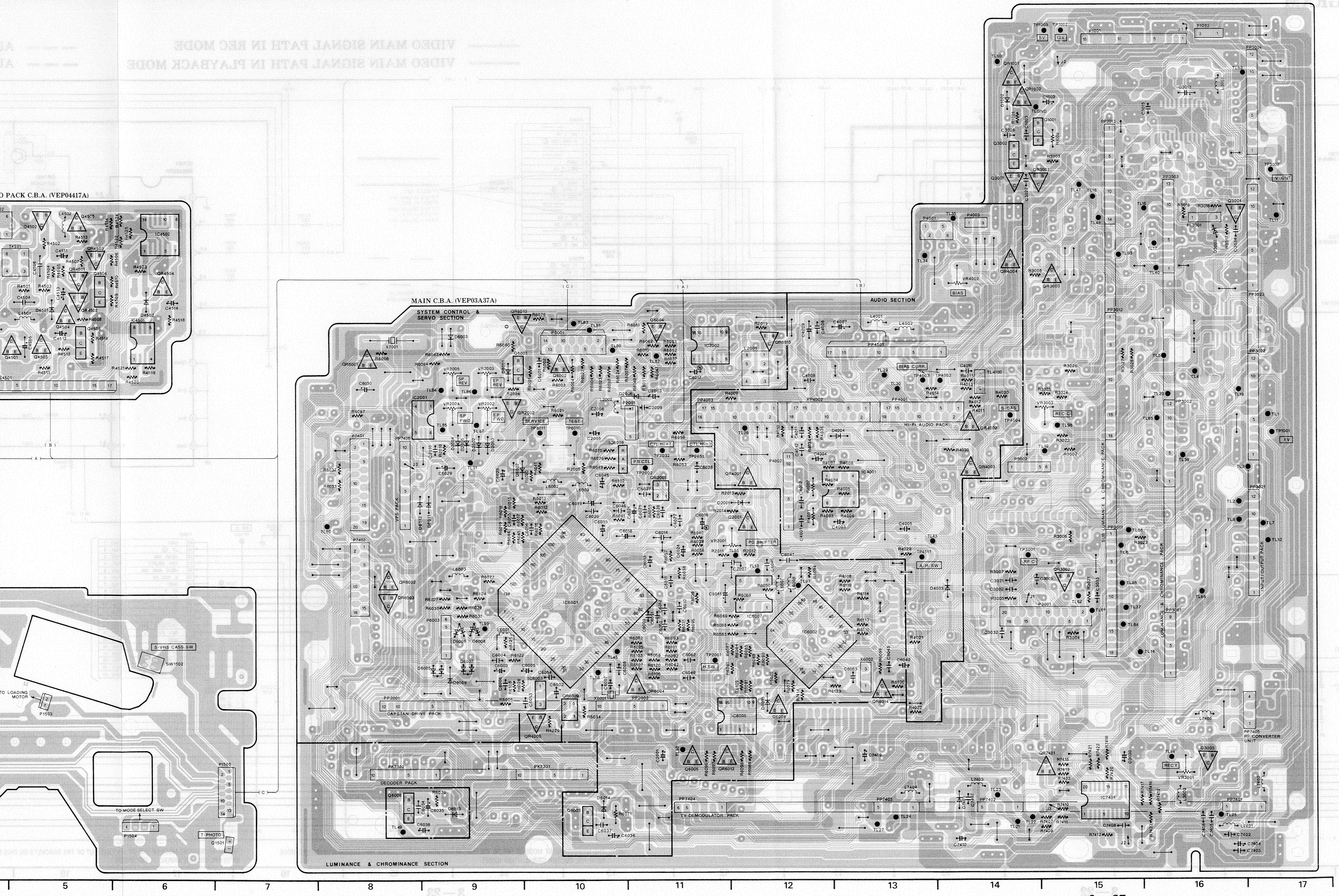
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)

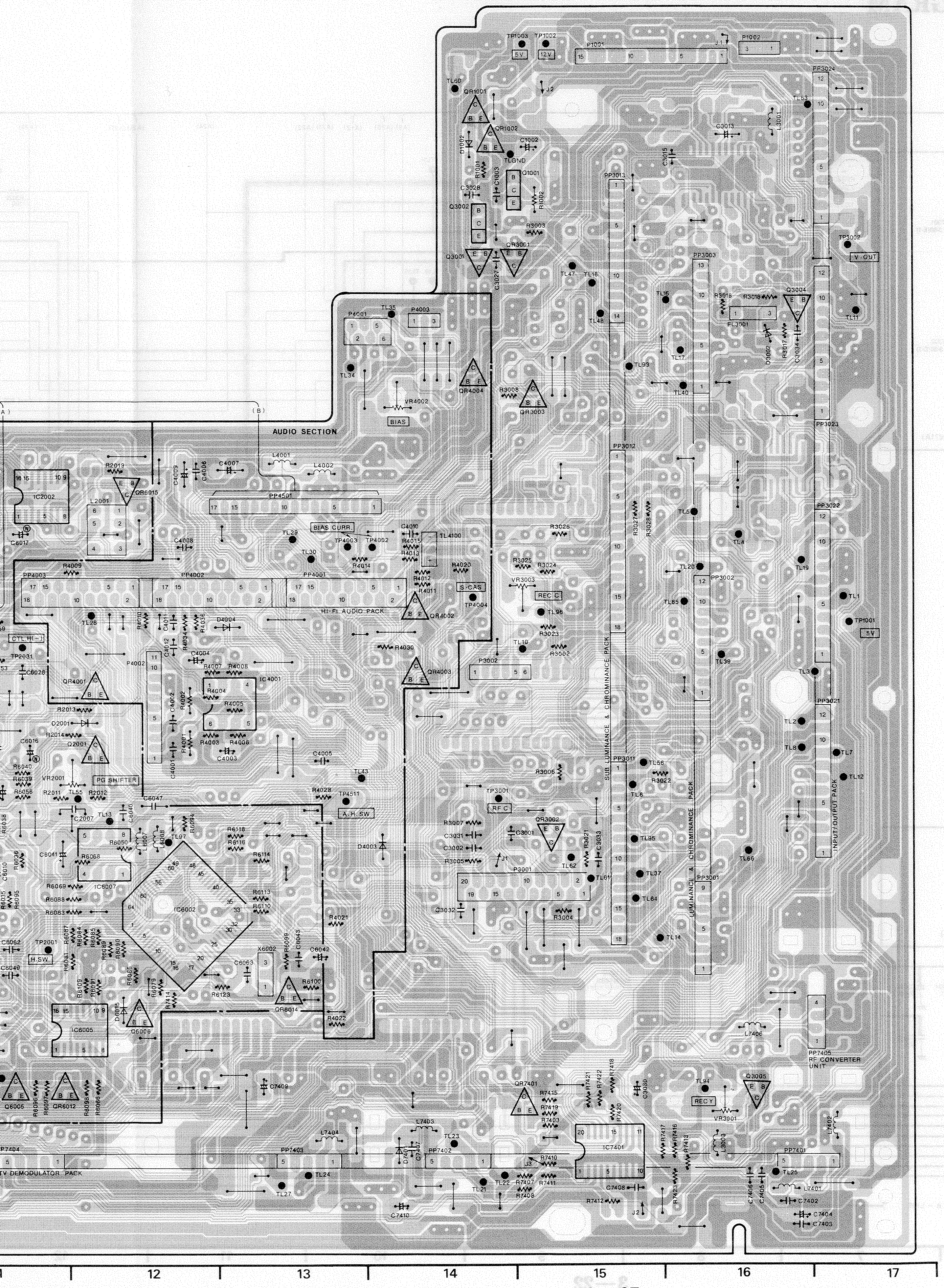
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-7. MAIN C.B.A. (VEP03A37A)


H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
CYLINDER DRIVE C.B.A. (VEX0126)
P2901
P2902
TH2901
SUB AUDIO PACK C.B.A. (VEP04417A)
IC4502
IC4501
PS4501
(B)
(A)
(C)
MECHANISM CONNECTION C.B.A.
SW1501
SAFETY TAB SW
S-REEL
IC1502
T-REEL
IC1501
S-VHS CASS.SW
SW1502
TO LOADING MOTOR
P1503
SENSOR
D1501
TO MODE SELECT SW
P1504
P1505
S-PHOTO
Q1502
T-PHOTO
Q1501
MAIN C.B.A. (VEP03A37A)
SYSTEM CONTROL & SERVO SECTION
AUDIO SEC
X7001
IC2001
SP REV
EP REV
SP FWD
EP FWD
SERVICE
TEST
CTL H(+)
CTL H(-)
PB CTL
PG SHIFTER
H.SW
IC6001
IC6002
IC6005
IC6007
IC6008
IC2002
IC4001
P7401
P7402
VPS PACK
PP7406
PP2001
CAPSTAN DRIVE PACK
PP2002
PK7302
PK7301
DECODER PACK
PP7404
TV DEMODULATOR PACK
PP7403
PP4001
PP4002
PP4003
LUMINANCE & CHROMINANCE SECTION


O PACK C.B.A. (VEP04417A)
MAIN C.B.A. (VEP03A37A)
SYSTEM CONTROL & SERVO SECTION
AUDIO SECTION
LUMINANCE & CHROMINANCE SECTION
Hi-Fi AUDIO PACK
VPS PACK
CAPSTAN DRIVE PACK
DECODER PACK
TV DEMODULATOR PACK
SUB LUMINANCE & CHROMINANCE PACK
LUMINANCE & CHROMINANCE PACK
INPUT/OUTPUT PACK
PP7405 RF CONVERTER UNIT
S-VHS CASS.SW
SW1502
TO LOADING MOTOR
P1503
TO MODE SELECT SW
P1504
T-PHOTO
Q1501
P1505
IC6001
IC6002
IC7401
BIAS
BIAS CURR
REC C
REC Y
RF C
A.H.SW
PG SHIFTER
H.SW
SERVICE
TEST
V-OUT
(A)
(B)
(C)
5
6
7
8
9
10
11
12
13
14
15
16
17


AUDIO SECTION
HI-FI AUDIO PACK
SUB LUMINANCE & CHROMINANCE PACK
LUMINANCE & CHROMINANCE PACK
INPUT/OUTPUT PACK
PP7405 RF CONVERTER UNIT
TV DEMODULATOR PACK
BIAS
BIAS CURR.
REC C
RF C
REC Y
V-OUT
5V
12V
A-H SW
PG SHIFTER
H.SW
12
13
14
15
16
17

MAIN C.B.A. ADDRESS INFORMATION

SYSTEM CONTROL & SERVO Section	
Transistor	
Q1501	A-7
Q1502	A-1
Q2001	D-12
Q6001	E-9
Q6002	E-10
Q6003	A-10
Q6004	F-11
Q6005	B-11
Q6006	B-12
Q6008	A-8
Transistor & Resistor	
QR2001	D-11
QR2002	E-9
QR6001	E-8
QR6002	C-8
QR6003	C-8
QR6004	B-11
QR6009	B-10
QR6012	B-11
QR6013	F-9
QR6014	B-13
QR6015	F-12
Integrated Circuit	
IC1501	C-4
IC1502	C-3
IC2001	E-9
IC2002	F-11
IC2901	F-1
IC6001	C-10
IC6002	C-12
IC6003	B-10
IC6005	B-12
IC6007	C-12
IC6008	E-10
Test Point	
TP2001	C-11
TP2002	D-11
TP2031	E-11
TP2032	E-11
TP6010	E-10
TP6011	E-10
Adjustment	
VR2001	D-12
VR2002	E-9
VR2003	E-9
VR2004	E-9
VR2005	E-9
Connector	
P1503	B-5
P1504	A-6
P1505	B-7
P2001	E-11
P2901	E-2
P2902	E-3
P6001	F-10
P6003	C-9
P7401	E-8
P7402	D-8
PP2001	B-8
PP2002	B-11
PP7406	E-8

ADDRESS INFORMATION

LUMINANCE & CHROMINANCE Section	
Transistor	
Q1001	H-15
Q3001	G-14
Q3002	H-14
Q3004	G-16
Q3005	B-16
Transistor & Resistor	
QR1001	H-14
QR1002	H-14
QR3001	G-15
QR3002	C-15
QR3003	F-15
QR7401	B-15
Integrated Circuit	
IC7401	A-15
Test Point	
TP1001	E-17
TP1002	H-15
TP1003	H-15
TP3001	D-14
TP3002	G-17
Adjustment	
VR3001	B-16
VR3003	E-15
Connector	
P1001	H-15
P1002	H-16
P3001	C-15
P3002	D-14
PK7301	B-10
PK7302	B-8
PP3001	C-16
PP3002	E-16
PP3003	G-16
PP3011	D-15
PP3012	F-15
PP3013	H-15
PP3021	D-17
PP3022	E-17
PP3023	F-17
PP3024	H-17
PP7401	A-16
PP7402	A-14
PP7403	A-13
PP7404	A-11
PP7405	B-17

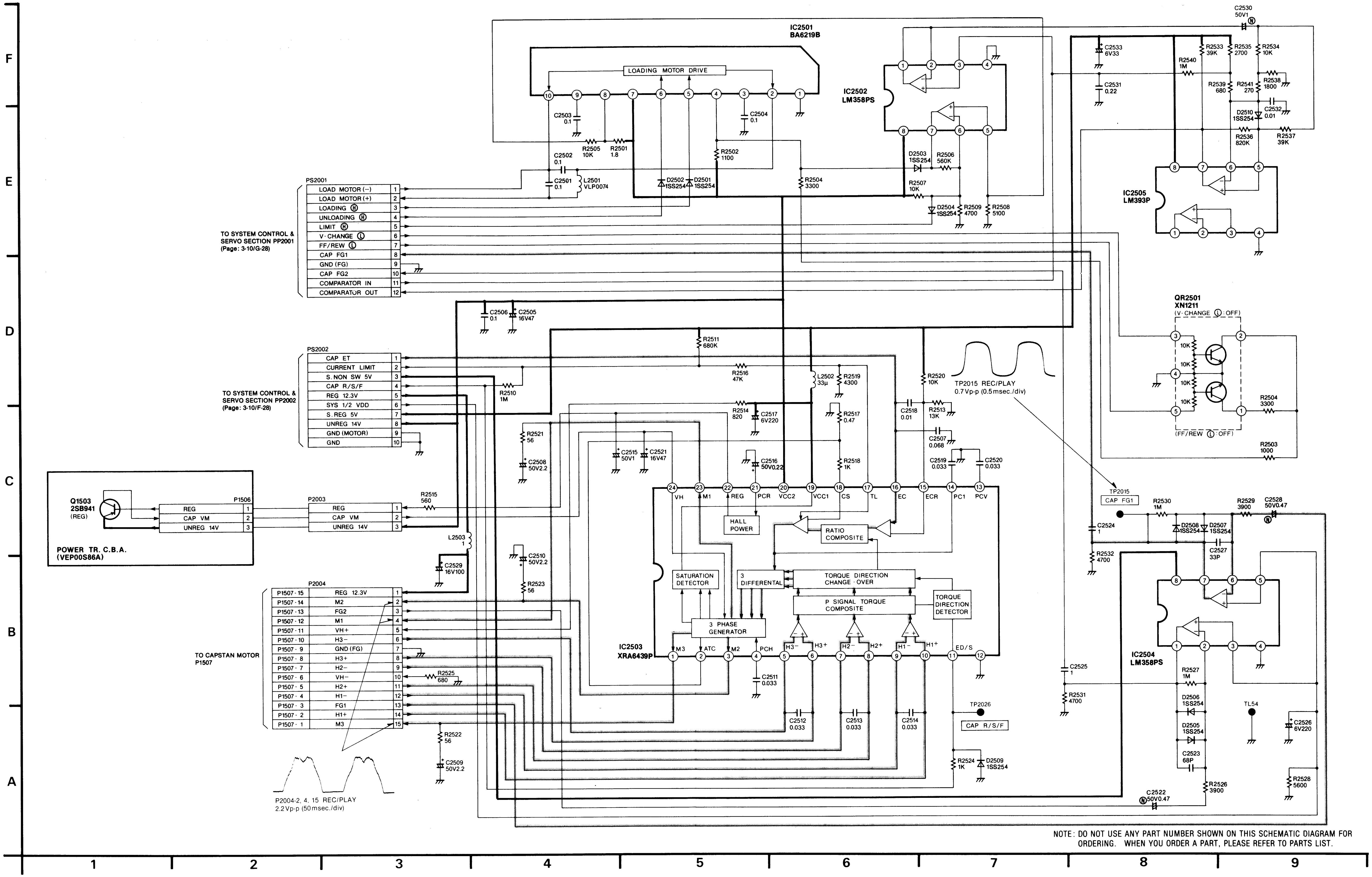
ADDRESS INFORMATION

AUDIO Section & SUB AUDIO PACK C.B.A.	
Transistor	
Q4501	F-5
Q4502	G-5
Q4503	F-5
Q4504	F-5
Q4505	G-5
Q4506	F-5
Q4507	F-4
Q4508	F-5
Transistor & Resistor	
QR4001	D-12
QR4002	E-14
QR4003	D-14
QR4004	F-14
QR4005	B-10
QR4501	F-5
QR4502	F-5
QR4503	G-5
QR4504	F-6
Integrated Circuit	
IC4001	D-13
IC4501	F-6
IC4502	G-6
Adjustment	
VR4002	F-14
Test Point	
TP4002	E-14
TP4003	E-13
TP4004	E-14
TP4511	D-13
Connector	
P4001	G-14
P4002	D-12
P4003	G-14
PP4001	E-13
PP4002	E-12
PP4003	E-11
PP4501	F-13
PS4501	E-4

ADDRESS INFORMATION

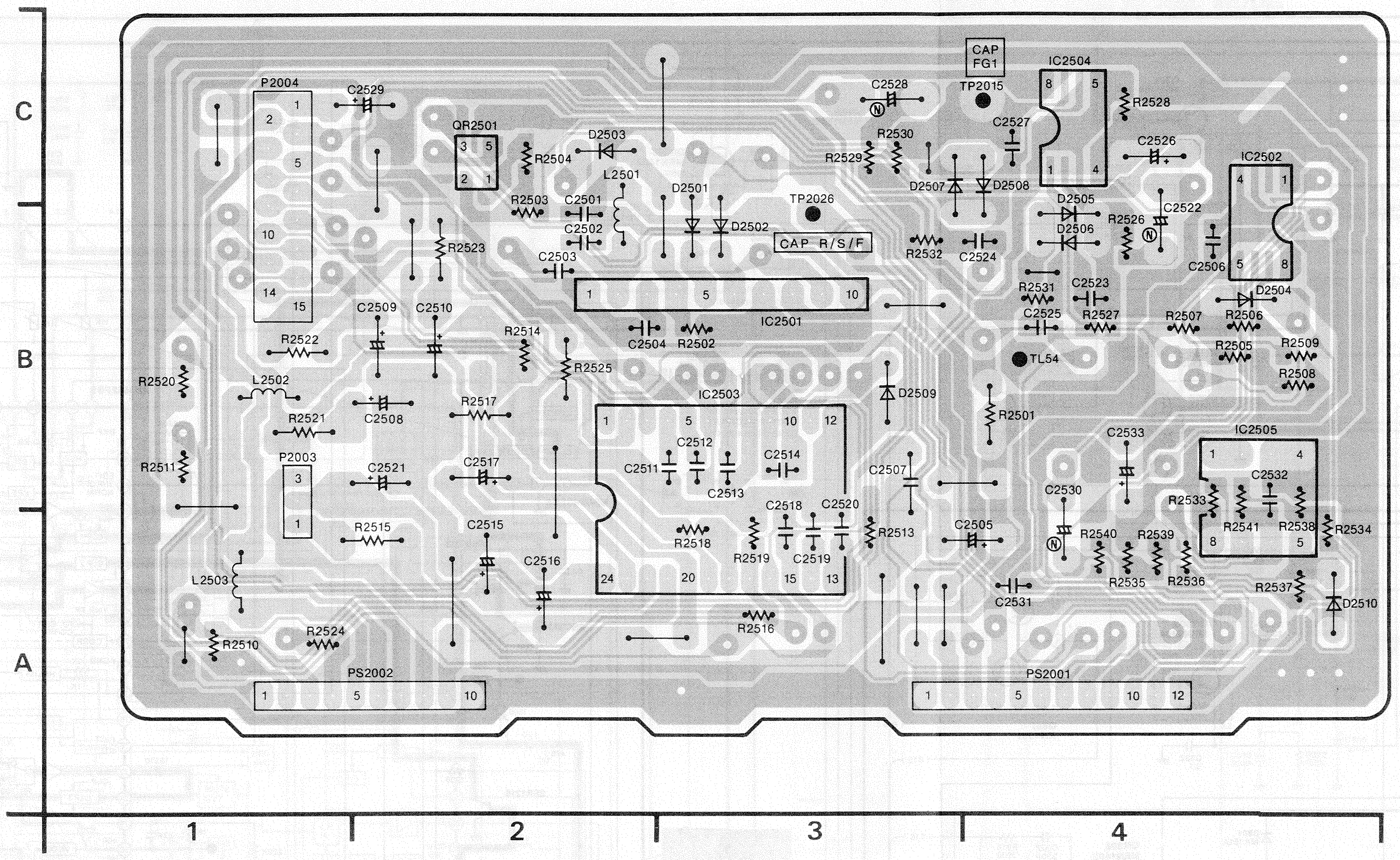
3-8. CAPSTAN DRIVE PACK SCHEMATIC DIAGRAM

CAPSTAN SERVO SPEED LOOP


IC2501
BA6219B
LOADING MOTOR DRIVE
IC2502
LM358PS
IC2505
LM393P
IC2503
XRA6439P
IC2504
LM358PS
QR2501
XN1211
(V·CHANGE Ⓛ:OFF)
(FF/REW Ⓛ:OFF)
PS2001
LOAD MOTOR (−)
LOAD MOTOR (+)
LOADING Ⓗ
UNLOADING Ⓗ
LIMIT Ⓗ
V·CHANGE Ⓛ
FF/REW Ⓛ
CAP FG1
GND (FG)
CAP FG2
COMPARATOR IN
COMPARATOR OUT
TO SYSTEM CONTROL & SERVO SECTION PP2001 (Page: 3-10/G-28)
PS2002
CAP ET
CURRENT LIMIT
S.NON SW 5V
CAP R/S/F
REG 12.3V
SYS 1/2 VDD
S.REG 5V
UNREG 14V
GND (MOTOR)
GND
TO SYSTEM CONTROL & SERVO SECTION PP2002 (Page: 3-10/F-28)
Q1503
2SB941
(REG)
P1506
REG
CAP VM
UNREG 14V
POWER TR. C.B.A.
(VEP00S86A)
P2003
P2004
P1507·15 REG 12.3V
P1507·14 M2
P1507·13 FG2
P1507·12 M1
P1507·11 VH+
P1507·10 H3−
P1507·9 GND (FG)
P1507·8 H3+
P1507·7 H2−
P1507·6 VH−
P1507·5 H2+
P1507·4 H1−
P1507·3 FG1
P1507·2 H1+
P1507·1 M3
TO CAPSTAN MOTOR P1507
P2004-2, 4, 15 REC/PLAY
2.2Vp-p (50msec./div)
TP2015 REC/PLAY
0.7Vp-p (0.5msec./div)
TP2015
CAP FG1
TP2026
CAP R/S/F
TL54
VH
M1
REG
PCR
VCC2
VCC1
CS
TL
EC
ECR
PC1
PCV
HALL POWER
RATIO COMPOSITE
SATURATION DETECTOR
3 DIFFERENTAL
TORQUE DIRECTION CHANGE·OVER
P SIGNAL TORQUE COMPOSITE
TORQUE DIRECTION DETECTOR
3 PHASE GENERATOR
M3
ATC
M2
PCH
H3−
H3+
H2−
H2+
H1−
H1+
ED/S
C2501 0.1
C2502 0.1
C2503 0.1
C2504 0.1
C2505 16V47
C2506 0.1
C2507 0.068
C2508 50V2.2
C2509 50V2.2
C2510 50V2.2
C2511 0.033
C2512 0.033
C2513 0.033
C2514 0.033
C2515 50V1
C2516 50V0.22
C2517 6V220
C2518 0.01
C2519 0.033
C2520 0.033
C2521 16V47
C2522 50V0.47
C2523 68P
C2524 1
C2525 1
C2526 6V220
C2527 33P
C2528 50V0.47
C2529 16V100
C2530 50V1
C2531 0.22
C2532 0.01
C2533 6V33
R2501 1.8
R2502 1100
R2503 1000
R2504 3300
R2505 10K
R2506 560K
R2507 10K
R2508 5100
R2509 4700
R2510 1M
R2511 680K
R2513 13K
R2514 820
R2515 560
R2516 47K
R2517 0.47
R2518 1K
R2519 4300
R2520 10K
R2521 56
R2522 56
R2523 56
R2524 1K
R2525 680
R2526 3900
R2527 1M
R2528 5600
R2529 3900
R2530 1M
R2531 4700
R2532 4700
R2533 39K
R2534 10K
R2535 2700
R2536 820K
R2537 39K
R2538 1800
R2539 680
R2540 1M
R2541 270
L2501 VLP0074
L2502 33μ
L2503 1
D2502 1SS254
D2501 1SS254
D2503 1SS254
D2504 1SS254
D2505 1SS254
D2506 1SS254
D2507 1SS254
D2508 1SS254
D2509 1SS254
D2510 1SS254
10K
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-9. CAPSTAN DRIVE PACK C.B.A. (VEP02412A)


C
B
A
1
2
3
4
P2004
C2529
QR2501
D2503
R2504
L2501
R2503
C2501
C2502
C2503
R2523
D2501
D2502
TP2026
CAP R/S/F
IC2501
C2528
R2530
R2529
CAP FG1
TP2015
C2527
IC2504
R2528
C2526
D2507
D2508
D2505
D2506
R2526
C2522
R2532
C2524
IC2502
C2506
D2504
R2531
C2523
C2525
R2527
R2507
R2506
R2505
R2509
R2508
TL54
C2509
C2510
R2522
R2514
R2525
C2504
R2502
R2520
L2502
R2517
R2521
C2508
IC2503
D2509
R2501
R2511
P2003
C2521
C2517
C2511
C2512
C2513
C2514
C2507
C2533
IC2505
C2532
C2530
R2533
R2541
R2538
R2534
R2515
C2515
C2516
R2518
C2518
C2520
R2519
C2519
R2513
C2505
R2540
R2539
R2535
R2536
R2537
D2510
L2503
C2531
R2516
R2510
R2524
PS2002
PS2001

CAPSTAN DRIVE PACK C.B.A.	
Transistor & Resistor	
QR2501	C-2
Integrated Circuit	
IC2501	B-3
IC2502	C-4
IC2503	B-3
IC2504	C-4
IC2505	B-4
Test Point	
TP2015	C-4
TP2026	B-3
Connector	
P2003	B-1
P2004	C-1
PS2001	A-4
PS2202	A-2

ADDRESS INFORMATION

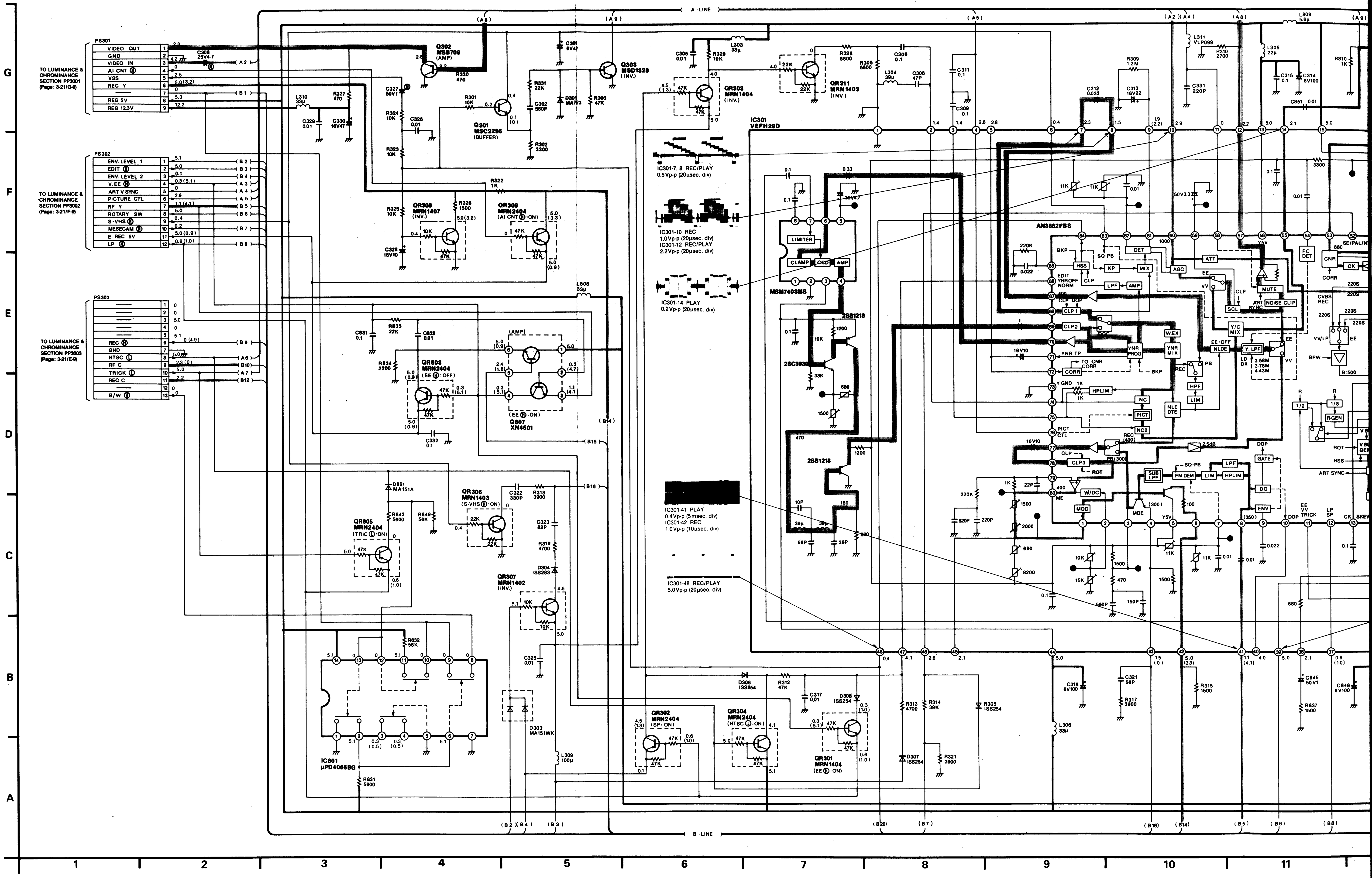
CAPSTAN DRIVE PACK ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC2501										IC2502									
MODE	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8		
STOP	0	0	0	6.9	0	0	14.4	14.4	0	0	0	0	0	0	4.9	0.7	13.1	14.4		
PLAY	0	0.4	0	6.8	0	0	14.3	14.3	0	0	0	0	0	0	4.8	0.7	13.0	14.3		
REC	0	0.3	0.1	6.8	0	0	14.3	14.3	0	0.1	0	0	0	0	4.8	0.7	13.0	14.3		
F.F	0.1	0	0	14.2	0.1	0.1	14.3	14.3	0	0	0	0	0	0	4.8	0.7	13.7	14.3		
REW	0	0.2	0	14.2	0	0	14.3	14.3	0.1	0	0	0	0	0	4.8	0.7	13.7	14.3		
REF. NO.	IC2503																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	1.1	0	1.1	1.5	2.3	2.4	2.3	2.4	2.4	2.3	2.0	0	1.2	2.6	2.9	1.4	0	0	5.2	14.4
PLAY	3.1	0.1	3.1	1.5	2.4	2.4	2.4	2.4	2.4	2.4	0	0	0.8	0.7	2.9	2.6	0.5	0.1	5.2	14.3
REC	3.1	0.1	3.1	1.5	2.4	2.4	2.4	2.4	2.4	2.4	0	0	0.8	0.7	2.9	2.6	0.5	0.1	5.2	14.3
F.F	7.7	0.2	7.7	1.5	2.4	2.4	0	2.4	2.4	2.4	0	0.1	1.0	0.8	2.9	1.9	0.5	0	5.2	14.3
REW	7.3	0.2	7.3	1.5	2.4	2.4	2.4	2.4	2.4	2.4	5.0	0.1	0.9	0.7	2.9	2.5	0.5	0.2	5.2	14.2
REF. NO.	IC2503																			
MODE	21	22	23	24																
STOP	0.5	13.8	1.1	4.7																
PLAY	2.3	13.1	3.1	4.7																
REC	2.3	13.1	3.1	4.6																
F.F	12.1	5.8	7.3	14.2																
REW	8.0	6.5	7.1	14.2																
REF. NO.	IC2504										IC2505									
MODE	1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8		
STOP	2.5	2.5	2.5	0	2.5	2.5	2.5	5.0			0	0.5	0.5	0	2.4	2.9	0	5.2		
PLAY	2.5	2.5	2.5	0	2.5	2.5	2.5	5.0			0	0.4	0.4	0	2.4	2.9	0	5.2		
REC	2.5	2.5	2.5	0	2.5	2.5	2.5	5.0			0	0.4	0.4	0	2.4	2.9	0	5.2		
F.F	2.5	2.5	2.5	0	2.5	2.5	2.5	5.0			0	0.4	0.4	0	2.4	2.9	0	5.2		
REW	2.5	2.5	2.5	0	2.5	2.5	2.5	5.0			0	0.4	0.4	0	2.4	2.9	0	5.2		

CAPSTAN DRIVE PACK TRANSISTORs DC VOLTAGE CHART (SP MODE)

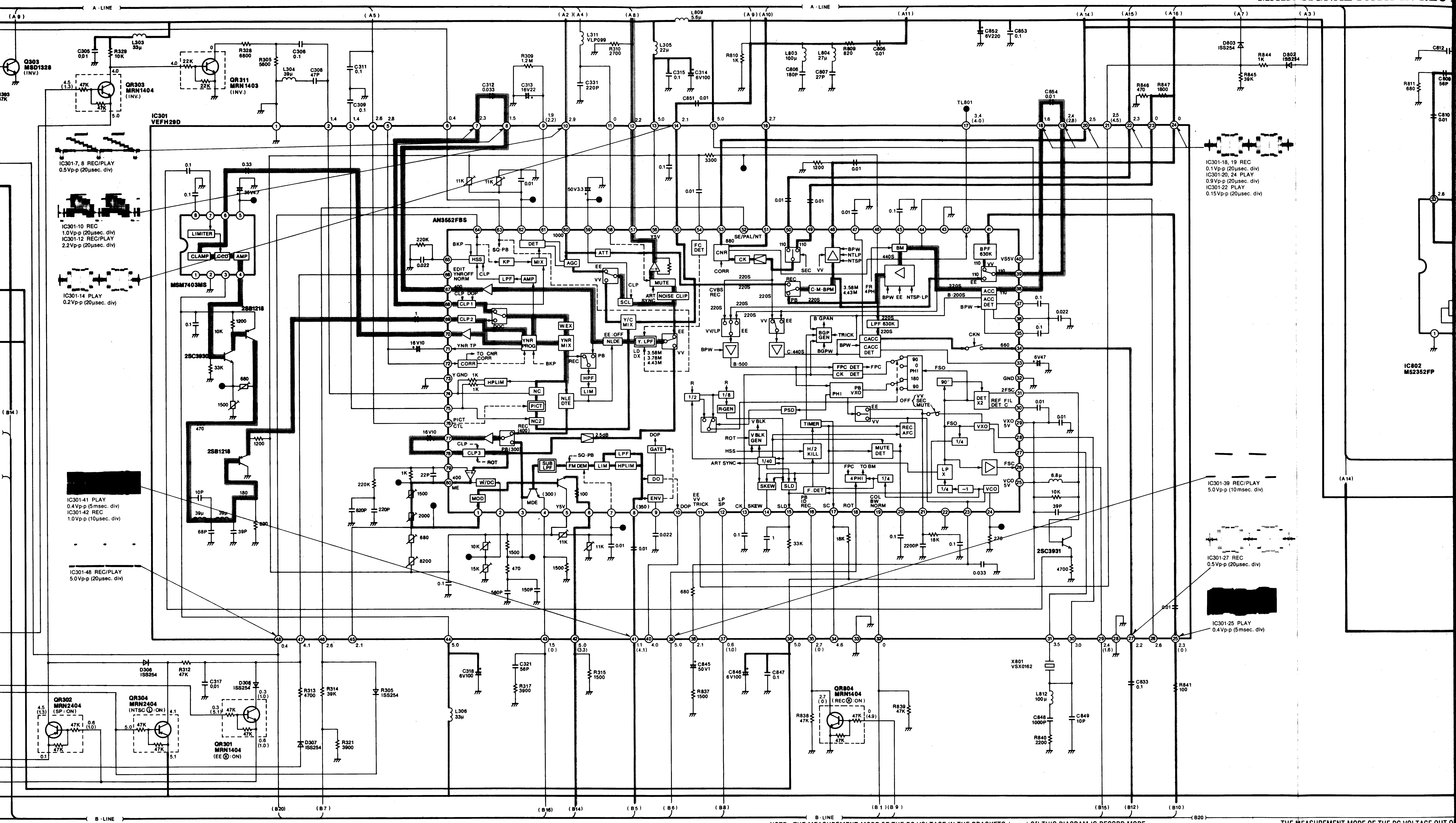
REF. NO.	Q1503						QR2501											
MODE	E	C	B				1	2	3	4	5							
STOP	14.4	4.7	13.9				0	0.1	4.9	0	4.9							
PLAY	14.4	4.7	13.6				0	0.1	4.9	0	4.9							
REC	14.4	4.7	13.6				0	0.1	4.9	0	4.9							
F.F	14.4	5.2	13.6				14.2	14.2	0	0	0							
REW	14.4	5.2	13.6				14.2	14.2	0	0	0							

3-10. LUMINANCE & CHROMINANCE PACK SCHEMATIC DIAGRAM


A-LINE
B-LINE
PS301
VIDEO OUT
GND
VIDEO IN
AI CNT Ⓛ
VSS
REC Y
REG 5V
REG 12.3V
TO LUMINANCE & CHROMINANCE SECTION PP3001 (Page: 3-21/G-9)
PS302
ENV. LEVEL 1
EDIT Ⓗ
ENV. LEVEL 2
V.EE Ⓗ
ART V SYNC
PICTURE CTL
RF Y
ROTARY SW
S-VHS Ⓗ
MESECAM Ⓗ
E.REC 5V
LP Ⓗ
TO LUMINANCE & CHROMINANCE SECTION PP3002 (Page: 3-21/F-9)
PS303
REC Ⓗ
GND
NTSC Ⓛ
RF C
TRICK Ⓛ
REC C
B/W Ⓗ
TO LUMINANCE & CHROMINANCE SECTION PP3003 (Page: 3-21/E-9)
Q302 MSB709 (AMP)
Q303 MSD1328 (INV.)
Q301 MSC2295 (BUFFER)
QR303 MRN1404 (INV.)
QR311 MRN1403 (INV.)
QR308 MRN1407 (INV.)
QR309 MRN2404 (AI CNT Ⓗ:ON)
QR803 MRN2404 (EE Ⓗ:OFF)
Q807 XN4501
QR805 MRN2404 (TRIC Ⓛ:ON)
QR306 MRN1403 (S-VHS Ⓗ:ON)
QR307 MRN1402 (INV.)
QR302 MRN2404 (SP:ON)
QR304 MRN2404 (NTSC Ⓛ:ON)
QR301 MRN1404 (EE Ⓗ:ON)
IC801 μPD4066BG
IC301 VEFH29D
AN3552FBS
MSM7403MS
2SB1218
2SC3930
D801 MA151A
D303 MA151WK
D304 1SS283
D305 1SS254
D306 1SS254
D307 1SS254
IC301-7, 8 REC/PLAY 0.5Vp-p (20μsec. div)
IC301-10 REC 1.0Vp-p (20μsec. div)
IC301-12 REC/PLAY 2.2Vp-p (20μsec. div)
IC301-14 PLAY 0.2Vp-p (20μsec. div)
IC301-41 PLAY 0.4Vp-p (5msec. div)
IC301-42 REC 1.0Vp-p (10μsec. div)
IC301-48 REC/PLAY 5.0Vp-p (20μsec. div)
LIMITER
CLAMP
CCD
AMP
AGC
ATT
DET
MIX
KP
HSS
LPF
CLP 1
CLP 2
CLP 3
DOC
YNR PROG
YNR MIX
W.EX
NLDE
Y. LPF
Y/C MIX
SCL
MUTE
NOISE CLIP
HPF
LIM
HPLIM
NC
NC2
PICT
NLE DTE
CORR
MOD
W/DC
SUB LPF
FM DEM
DO
ENV
GATE
FC DET
CNR
CK
R-GEN
1/2
1/8
(A 8) (A 9) (A 5) (A 2)(A 4) (A 8) (A 9)
(B 2)(B 4) (B 3) (B20) (B 7) (B16) (B14) (B 5) (B 6) (B 8)
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

AM

MAIN SIGNAL PATH IN REC


A·LINE
B·LINE
Q303
MSD1328
(INV.)
QR303
MRN1404
(INV.)
QR311
MRN1403
(INV.)
IC301
VEFH29D
AN3552FBS
MSM7403MS
2SB1218
2SC3930
2SB1218
2SC3931
IC802
M52352FP
QR302
MRN2404
(SP·ON)
QR304
MRN2404
(NTSC Ⓛ·ON)
QR301
MRN1404
(EE Ⓗ·ON)
QR804
MRN1404
(REC Ⓗ·ON)
X801
VSX0162
IC301-7, 8 REC/PLAY
0.5Vp-p (20µsec. div)
IC301-10 REC
1.0Vp-p (20µsec. div)
IC301-12 REC/PLAY
2.2Vp-p (20µsec. div)
IC301-14 PLAY
0.2Vp-p (20µsec. div)
IC301-41 PLAY
0.4Vp-p (5msec. div)
IC301-42 REC
1.0Vp-p (10µsec. div)
IC301-48 REC/PLAY
5.0Vp-p (20µsec. div)
IC301-18, 19 REC
0.1Vp-p (20µsec. div)
IC301-20, 24 PLAY
0.9Vp-p (20µsec. div)
IC301-22 PLAY
0.15Vp-p (20µsec. div)
IC301-39 REC/PLAY
5.0Vp-p (10msec. div)
IC301-27 REC
0.5Vp-p (20µsec. div)
IC301-25 PLAY
0.4Vp-p (5msec. div)
LIMITER
CLAMP
CCD
AMP
HSS
KP
DET
MIX
LPF
AMP
AGC
ATT
SCL
MUTE
NOISE CLIP
FC DET
CNR
CK
C·M·BPM
BM
BPF 630K
ACC
ACC DET
CLP 1
CLP 2
DOC
YNR PROG
W.EX
YNR MIX
Y/C MIX
NLDE
Y. LPF
CORR
HPLIM
NC
PICT
NC2
NLE DTE
HPF
LIM
CLP3
W/DC
MOD
SUB LPF
FM DEM
LIM
HPLIM
LPF
GATE
DO
ENV
BGP GEN
LPF 630K
CACC
CACC DET
FPC DET
CK DET
PHI
PB VXO
PSD
R-GEN
V BLK GEN
TIMER
H/2 KILL
REC AFC
MUTE DET
1/40
SKEW
SLD
F. DET
4PHI
1/4
LP X
1/4
−1
VCO
VXO
90°
DET X2
FSC
1/2
1/8

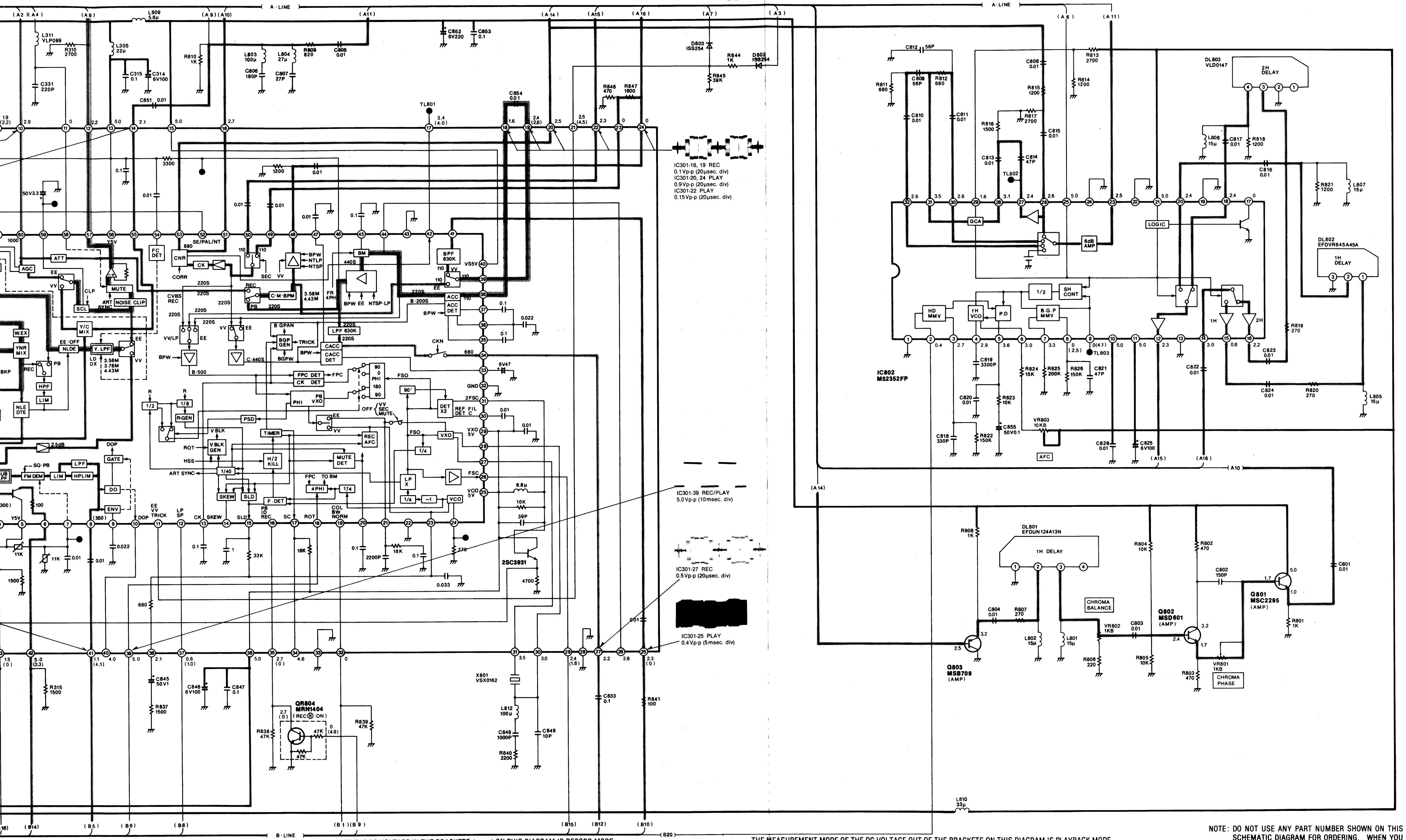
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT O WITH PAL COLOUR SIGNAL. (SP MODE)

6 7 8 9 10 11 12 13 14 15 16 17

MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE

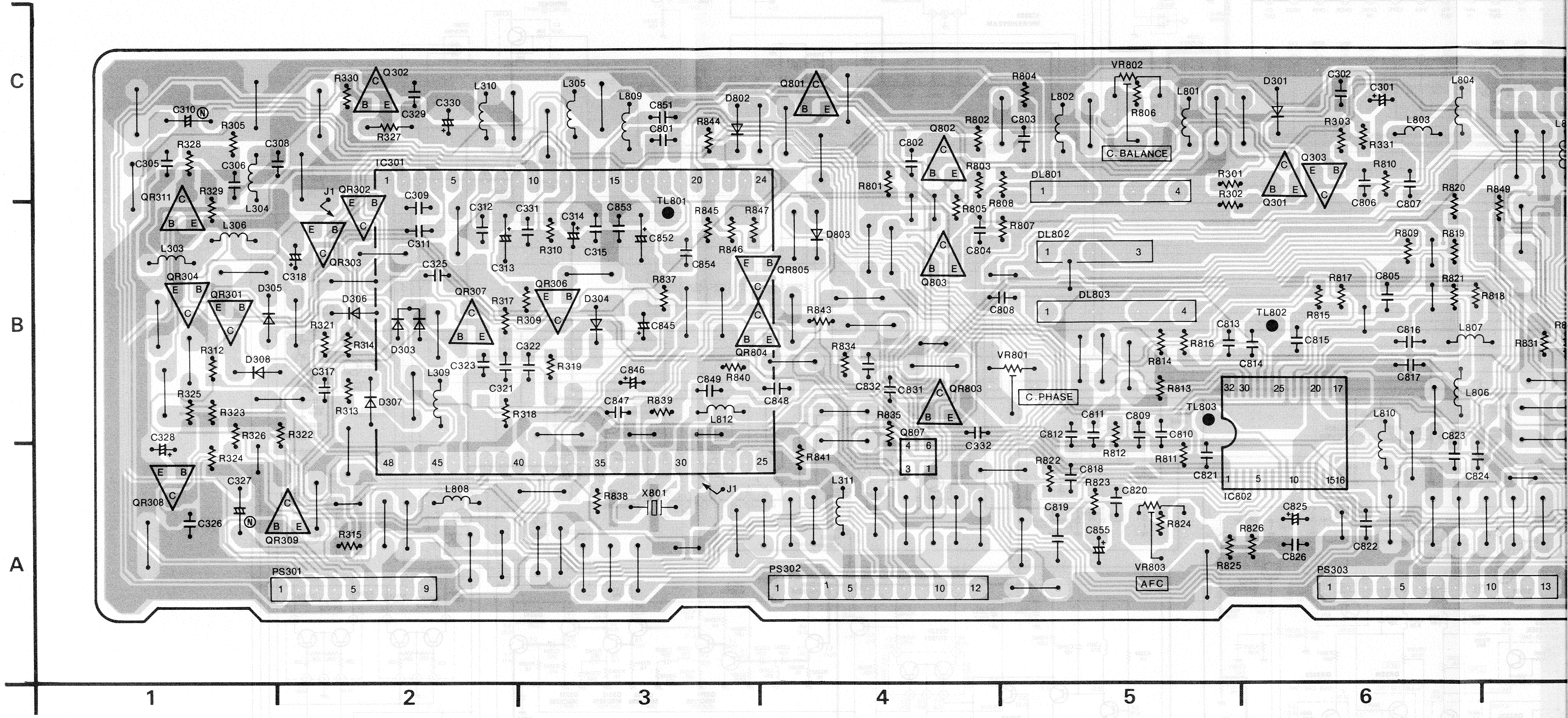

A·LINE
B·LINE
L809 5.6μ
L311 VLP099
R310 2700
L305 22μ
C315 0.1
C314 6V100
C331 220P
R810 1K
L803 100μ
L804 27μ
R809 820
C805 0.01
C806 180P
C807 27P
C851 0.01
C852 6V220
C853 0.1
D803 ISS254
R844 1K
D802 ISS254
R845 39K
R846 470
R847 1800
C854 0.01
TL801
IC301-18, 19 REC
0.1Vp-p (20μsec. div)
IC301-20, 24 PLAY
0.9Vp-p (20μsec. div)
IC301-22 PLAY
0.15Vp-p (20μsec. div)
IC301-39 REC/PLAY
5.0Vp-p (10msec. div)
IC301-27 REC
0.5Vp-p (20μsec. div)
IC301-25 PLAY
0.4Vp-p (5msec. div)
SE/PAL/NT
CNR
CORR
FC DET
BPF 630K
BM
ACC
ACC DET
LPF 630K
CACC
CACC DET
BGP GEN
B GPAN
TRICK
FPC DET
CK DET
PHI
PB VXO
90°
DET X2
REF DET
FIL C
VXO
FSO
1/4
LPX
-1
VCO
TIMER
REC AFC
MUTE DET
H/2 KILL
V BLK GEN
PSD
R-GEN
1/2
1/8
1/40
SKEW
SLD
F DET
4PHI
174
ATT
AGC
MUTE
NOISE CLIP
SCL
Y/C MIX
NLDE
Y. LPF
W.EX
YNR MIX
HPF
LIM
NLE DTE
GATE
DO
ENV
LPF
HPLIM
FM DEM
X801 VSX0162
L812 100μ
C848 1000P
C849 10P
R840 2200
QR804 MRN1404 (REC(H):ON)
R838 47K
R839 47K
2SC3931
C845 50V1
C846 6V100
C847 0.1
R837 1500
R315 1500
C833 0.1
R841 100
C812 56P
R811 680
C809 56P
R812 680
C808 0.01
R813 2700
R814 1200
R815 1200
R816 1500
R817 2700
C815 0.01
C810 0.01
C811 0.01
C813 0.01
C814 47P
TL802
GCA
6dB AMP
LOGIC
DL803 VLD0147
2H DELAY
L806 15μ
C817 0.01
R818 1200
C816 0.01
R821 1200
L807 15μ
DL802 EFDVR645A45A
1H DELAY
R819 270
C823 0.01
C822 0.01
C824 0.01
R820 270
L805 15μ
HD MMV
1H VCO
P.D
1/2
SH CONT
B.G.P MMV
IC802 M52352FP
C819 3300P
C820 0.01
C818 330P
R822 150K
R823 10K
C855 50V0.1
R824 15K
R825 200K
R826 150K
C821 47P
VR803 10KB
TL803
C826 0.01
C825 6V100
AFC
DL801 EFDUN124A13N
1H DELAY
R808 1K
R804 10K
R802 470
C802 150P
Q801 MSC2295 (AMP)
C801 0.01
R801 1K
C804 0.01
R807 270
L802 15μ
L801 15μ
CHROMA BALANCE
VR802 1KB
C803 0.01
Q802 MSD601 (AMP)
R806 220
R805 10K
R803 470
VR801 1KB
CHROMA PHASE
Q803 MSB709 (AMP)
L810 33μ
10
11
12
13
14
15
16
17
18
19
20
21

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)

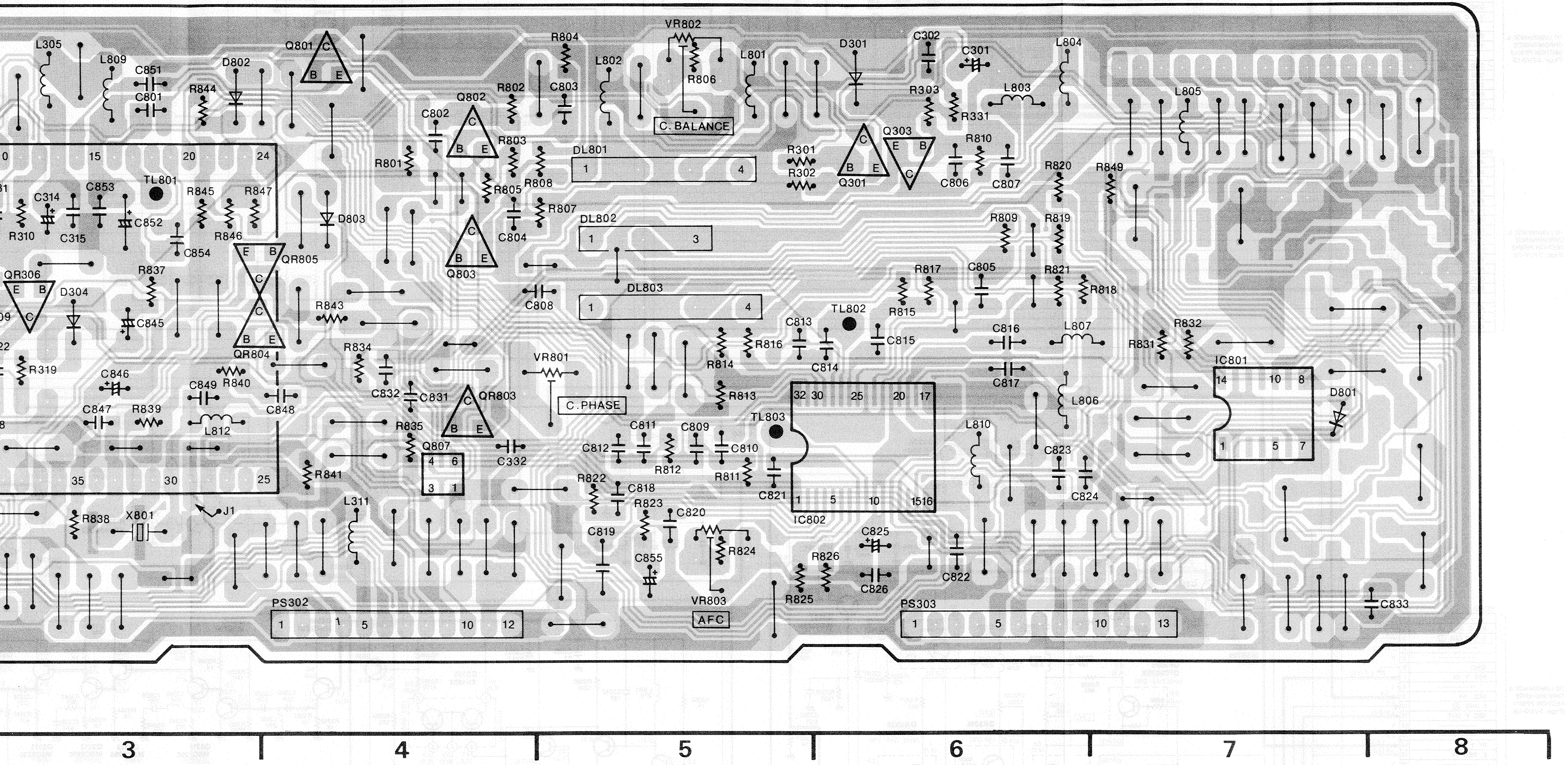
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-11. LUMINANCE & CHROMINANCE PACK C.B.A. (VEP03A39A)


C
B
A
1
2
3
4
5
6
R330
Q302
C329
R327
C330
L310
L305
L809
C851
C801
R844
D802
Q801
R804
VR802
R806
C. BALANCE
L802
C803
R802
C802
Q802
R803
R808
R805
R807
R801
L801
D301
C302
C301
R303
R331
L803
L804
C310
R305
R328
C308
C305
C306
R329
L304
QR311
L306
L303
J1
QR302
QR303
C318
IC301
1
5
10
15
20
24
48
45
40
35
30
25
C309
C311
C312
C331
C313
R310
C314
C315
C853
C852
TL801
C854
R845
R847
R846
D803
R837
QR805
QR804
C325
QR304
QR301
D305
D306
QR307
R317
QR306
R309
D304
C845
R321
R314
D303
R312
D308
C317
R313
D307
L309
C322
C323
C321
R319
C846
C849
R840
C847
R839
L812
C848
R318
R325
R323
R326
R322
C328
R324
QR308
C327
C326
QR309
R315
L808
R838
X801
PS301
9
PS302
12
PS303
13
R843
R834
C832
C831
QR803
R835
Q807
4
6
3
C332
R841
L311
Q803
C804
C808
DL801
DL802
DL803
VR801
C. PHASE
C811
C809
C812
R812
C810
R811
C821
R822
C818
R823
C820
C819
C855
R824
VR803
AFC
R813
R814
R816
C813
C814
TL802
C815
TL803
IC802
32
17
16
R301
R302
Q301
Q303
R310
C806
C807
R820
R849
R809
R819
R817
C805
R815
R821
R818
C816
L807
C817
L806
R831
L810
C823
C824
C825
R826
R825
C826
C822

(VEP03A39A)

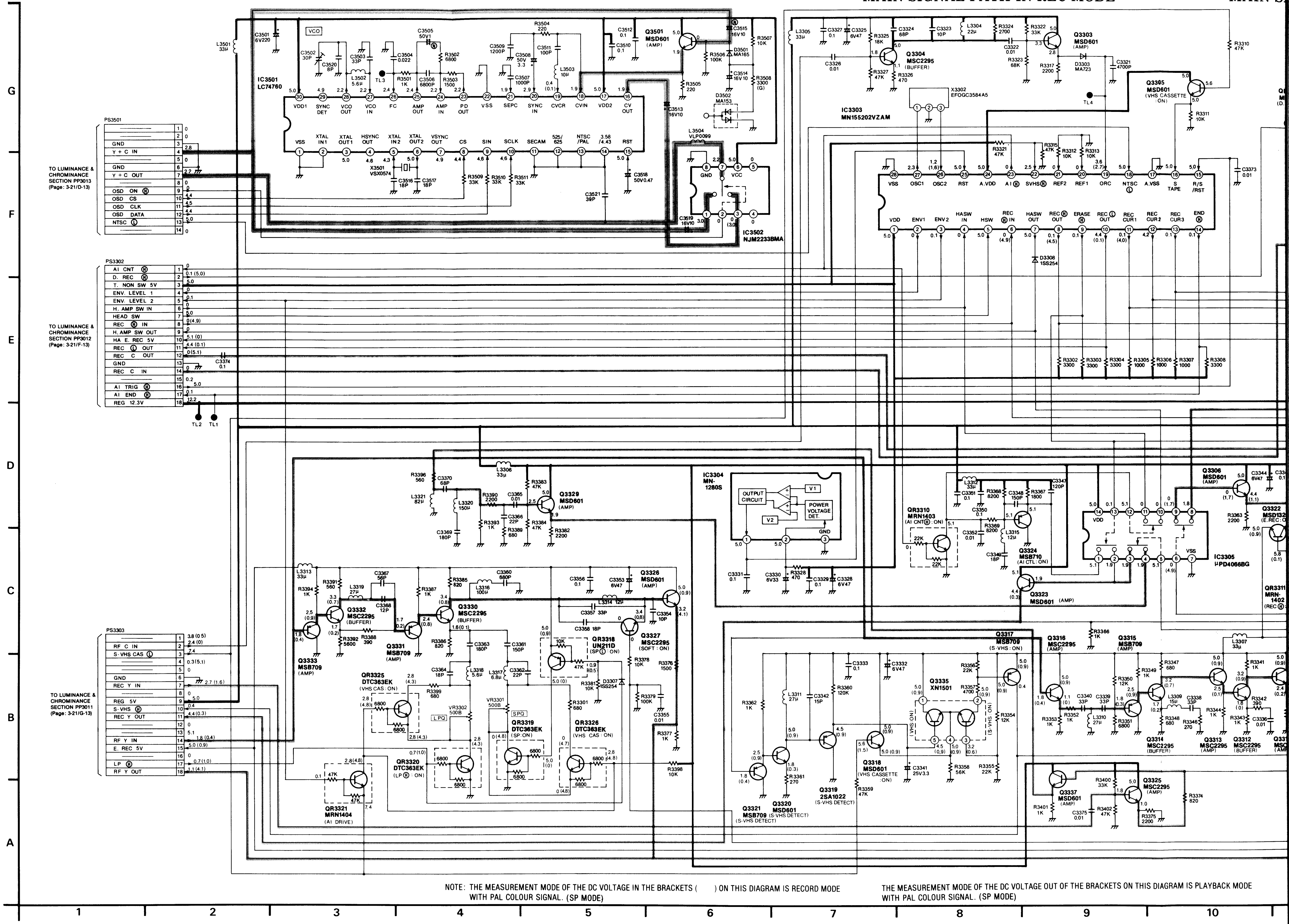

L305
L809
C851
C801
D802
R844
Q801
C
B
E
R804
VR802
R806
L802
C803
R802
Q802
C802
R801
R803
R805
R808
C804
R807
C. BALANCE
L801
D301
C302
C301
R303
R331
L803
L804
L805
R301
R302
Q301
Q303
R810
C806
C807
DL801
1
4
R820
R849
10
15
20
24
C314
C853
TL801
R845
R847
R310
C315
C852
C854
R846
D803
QR805
QR306
D304
R837
C845
R843
QR804
R319
C846
R840
C849
C847
R839
L812
C848
R834
C832
C831
QR803
VR801
C. PHASE
Q803
C808
DL802
3
DL803
R809
R819
R817
C805
R821
R818
R815
TL802
C813
R816
C814
C815
R814
C816
L807
R832
R831
IC801
14
8
D801
C817
R813
32
30
25
17
TL803
L806
R835
Q807
6
C332
C811
C809
C812
C810
R812
R811
C821
L810
C823
C824
5
7
35
R841
R822
C818
R823
C820
IC802
16
R838
X801
J1
L311
C819
R824
C855
VR803
AFC
R826
C825
R825
C826
C822
C833
PS302
12
PS303
13
3
4
5
6
7
8

LUMINANCE & CHROMINANCE PACK C.B.A.	
Transistor	
Q301	C-6
Q302	C-2
Q303	C-6
Q801	C-4
Q802	C-4
Q803	B-4
Q807	A-4
Transistor & Resistor	
QR301	B-1
QR302	B-2
QR303	B-2
QR304	B-1
QR306	B-3
QR307	B-2
QR308	A-1
QR309	A-2
QR311	B-1
QR803	B-4
QR804	B-3
QR805	B-4
Integrated Circuit	
IC301	C-2
IC801	B-7
IC802	A-6
Adjustment	
VR801	B-5
VR802	C-5
VR803	A-5
Connector	
PS301	A-2
PS302	A-4
PS303	A-6

ADDRESS INFORMATION

3-12. SUB LUMINANCE & CHROMINANCE PACK SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE — MAIN S


IC3501
LC74760
VCO
VDD1
SYNC DET
VCO OUT
VCO IN
FC
AMP OUT
AMP IN
PD OUT
VSS
SEPC
SYNC IN
CVCR
CVIN
VDD2
CV OUT
XTAL IN1
XTAL OUT1
HSYNC OUT
XTAL IN2
XTAL OUT2
VSYNC OUT
CS
SIN
SCLK
SECAM
525/625
NTSC/PAL
3.58/4.43
RST
X3501
VSX0574
Q3501
MSD601
(AMP)
D3501
MA165
D3502
MA153
L3504
VLP0099
IC3502
NJM2233BMA
GND
VCC
PS3501
TO LUMINANCE & CHROMINANCE SECTION PP3013 (Page: 3-21/D-13)
GND
Y + C IN
Y + C OUT
OSD ON
OSD CS
OSD CLK
OSD DATA
NTSC
PS3302
TO LUMINANCE & CHROMINANCE SECTION PP3012 (Page: 3-21/F-13)
AI CNT
D. REC
T. NON SW 5V
ENV. LEVEL 1
ENV. LEVEL 2
H. AMP SW IN
HEAD SW
REC IN
H. AMP SW OUT
HA E. REC 5V
REC OUT
REC C OUT
GND
REC C IN
AI TRIG
AI END
REG 12.3V
TL2
TL1
PS3303
TO LUMINANCE & CHROMINANCE SECTION PP3011 (Page: 3-21/G-13)
RF C IN
S-VHS CAS
GND
REC Y IN
REG 5V
S-VHS
REC Y OUT
RF Y IN
E. REC 5V
LP
RF Y OUT
IC3303
MN155202VZAM
VSS
OSC1
OSC2
RST
A.VDD
AI
SVHS
REF2
REF1
ORC
NTSC
A.VSS
S TAPE
R/S /RST
VDD
ENV1
ENV2
HASW IN
HSW
REC IN
HASW OUT
REC OUT
ERASE
REC OUT
REC CUR1
REC CUR2
REC CUR3
END
X3302
EFOGC3584A5
Q3303
MSD601
(AMP)
Q3304
MSC2295
(BUFFER)
Q3305
MSD601
(VHS CASSETTE : ON)
D3303
MA723
D3308
1SS254
TL3
TL4
Q3329
MSD601
(AMP)
IC3304
MN1280S
OUTPUT CIRCUIT
POWER VOLTAGE DET.
V1
V2
GND
QR3310
MRN1403
(AI CNT : ON)
Q3324
MSB710
(AI CTL : ON)
Q3323
MSD601
(AMP)
IC3305
μPD4066BG
Q3306
MSD601
(AMP)
Q3322
QR3311
MRN-1402
Q3326
MSD601
(AMP)
Q3332
MSC2295
(BUFFER)
Q3330
MSC2295
(BUFFER)
Q3331
MSB709
(AMP)
Q3333
MSB709
(AMP)
Q3327
MSC2295
(SOFT : ON)
QR3318
UN211D
(SP : ON)
QR3325
DTC363EK
(VHS CAS : ON)
QR3320
DTC363EK
(LP : ON)
QR3319
DTC363EK
(SP : ON)
QR3326
DTC363EK
(VHS CAS : ON)
QR3321
MRN1404
(AI DRIVE)
LPQ
SPQ
VR3302
500B
VR3301
500B
D3307
1SS254
Q3317
MSB709
(S-VHS : ON)
Q3335
XN1501
Q3316
MSC2295
(AMP)
Q3315
MSB709
(AMP)
Q3321
MSB709
(S-VHS DETECT)
Q3320
MSD601
(S-VHS DETECT)
Q3319
2SA1022
(S-VHS DETECT)
Q3318
MSD601
(VHS CASSETTE : ON)
Q3314
MSC2295
(BUFFER)
Q3313
MSC2295
(AMP)
Q3312
MSC2295
(BUFFER)
Q3337
MSD601
(AMP)
Q3325
MSC2295
(AMP)
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10

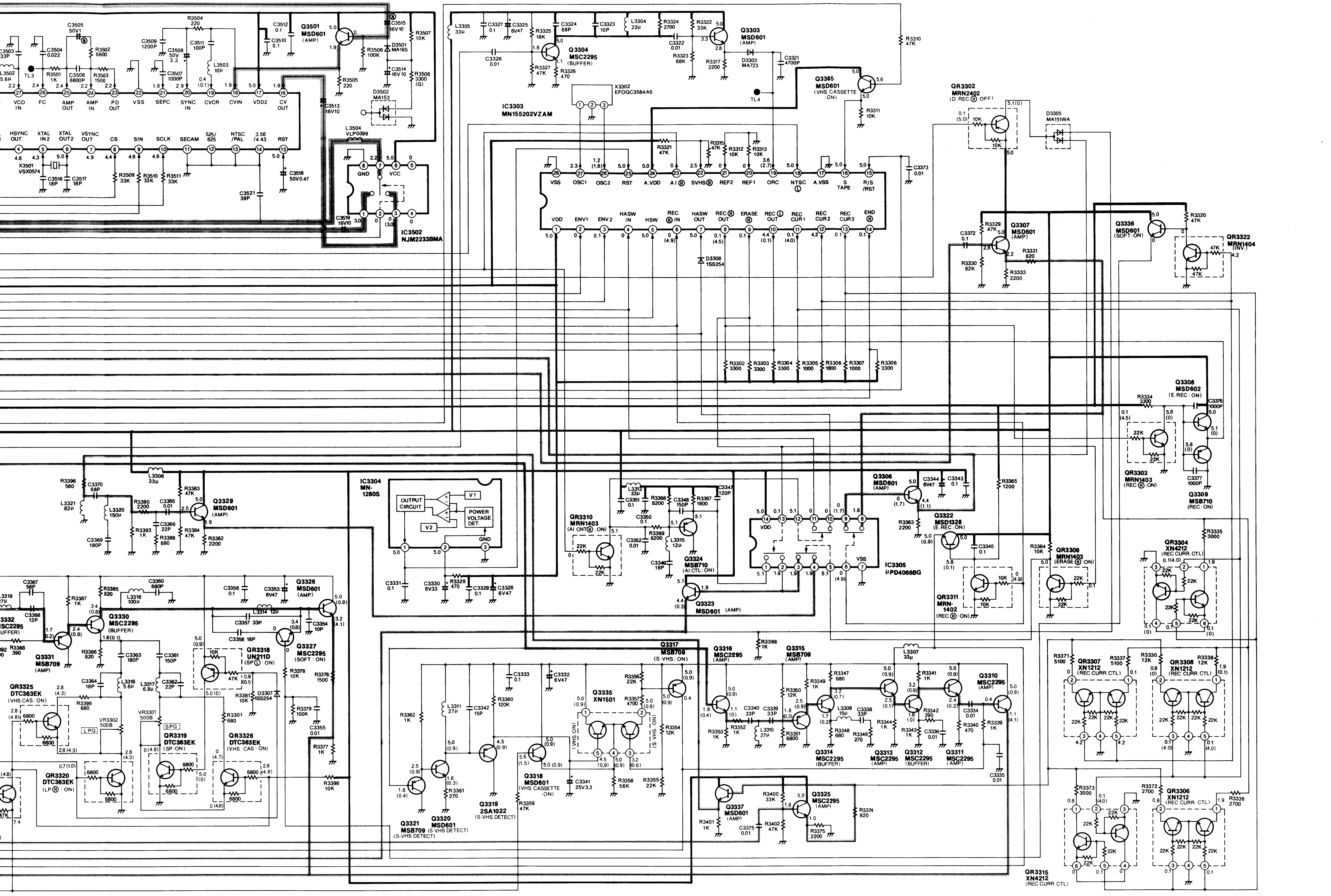
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

ANCE PACK SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE



IC3502 NJM2233BMA
IC3303 MN155202VZAM
IC3304 MN-1280S
OUTPUT CIRCUIT
POWER VOLTAGE DET.
IC3305 μPD4066BG
X3501 VSX0574
X3302 EFOGC3584A5
Q3501 MSD601 (AMP)
Q3303 MSD601 (AMP)
Q3304 MSC2295 (BUFFER)
Q3305 MSD601 (VHS CASSETTE : ON)
QR3302 MRN2402 (D. REC Ⓗ : OFF)
D3305 MA151WA
Q3307 MSD601 (AMP)
Q3336 MSD601 (SOFT : ON)
QR3322 MRN1404 (INV.)
Q3308 MSD602 (E. REC : ON)
QR3303 MRN1403 (REC Ⓗ : ON)
Q3309 MSB710 (REC : ON)
Q3306 MSD601 (AMP)
Q3322 MSD1328 (E. REC : ON)
QR3309 MRN1403 (ERASE Ⓗ : ON)
QR3311 MRN-1402 (REC Ⓗ ON)
QR3304 XN4212 (REC CURR. CTL)
QR3307 XN1212 (REC CURR. CTL)
QR3308 XN1212 (REC CURR. CTL)
QR3306 XN1212 (REC CURR. CTL)
QR3315 XN4212 (REC CURR. CTL)
QR3310 MRN1403 (AI CNT Ⓛ : ON)
Q3324 MSB710 (AI CTL : ON)
Q3323 MSD601 (AMP)
Q3329 MSD601 (AMP)
Q3326 MSD601 (AMP)
Q3330 MSC2295 (BUFFER)
Q3331 MSB709 (AMP)
Q3327 MSC2295 (SOFT : ON)
QR3318 UN211D (SP Ⓛ : ON)
QR3325 DTC363EK (VHS CAS : ON)
QR3319 DTC363EK (SP : ON)
QR3326 DTC363EK (VHS CAS : ON)
QR3320 DTC363EK (LP Ⓗ : ON)
Q3317 MSB709 (S-VHS : ON)
Q3316 MSC2295 (AMP)
Q3315 MSB709 (AMP)
Q3335 XN1501
Q3318 MSD601 (VHS CASSETTE : ON)
Q3319 2SA1022 (S-VHS DETECT)
Q3320 MSD601 (S-VHS DETECT)
Q3321 MSB709 (S-VHS DETECT)
Q3314 MSC2295 (BUFFER)
Q3313 MSC2295 (AMP)
Q3312 MSC2295 (BUFFER)
Q3311 MSC2295 (AMP)
Q3310 MSC2295 (AMP)
Q3337 MSD601 (AMP)
Q3325 MSC2295 (AMP)
VR3302 500B
VR3301 500B
LPQ
SPQ

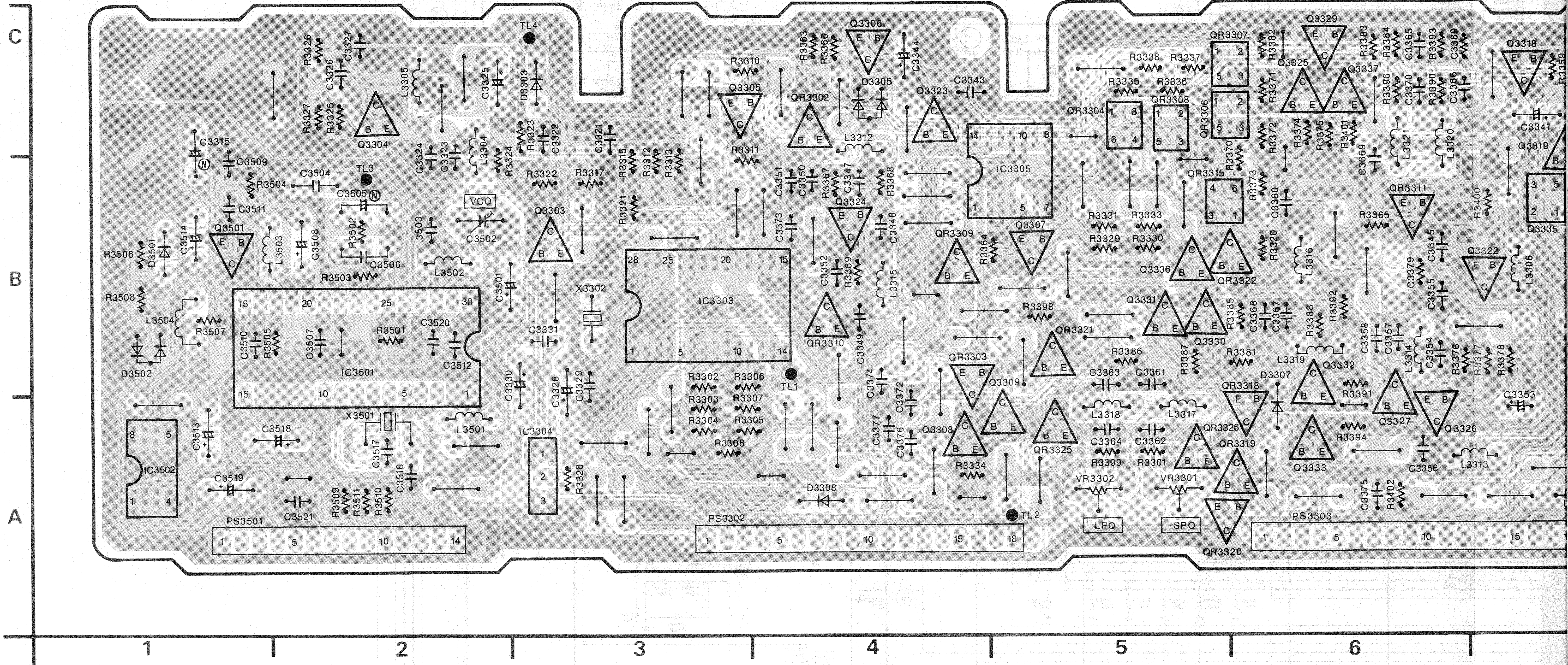
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

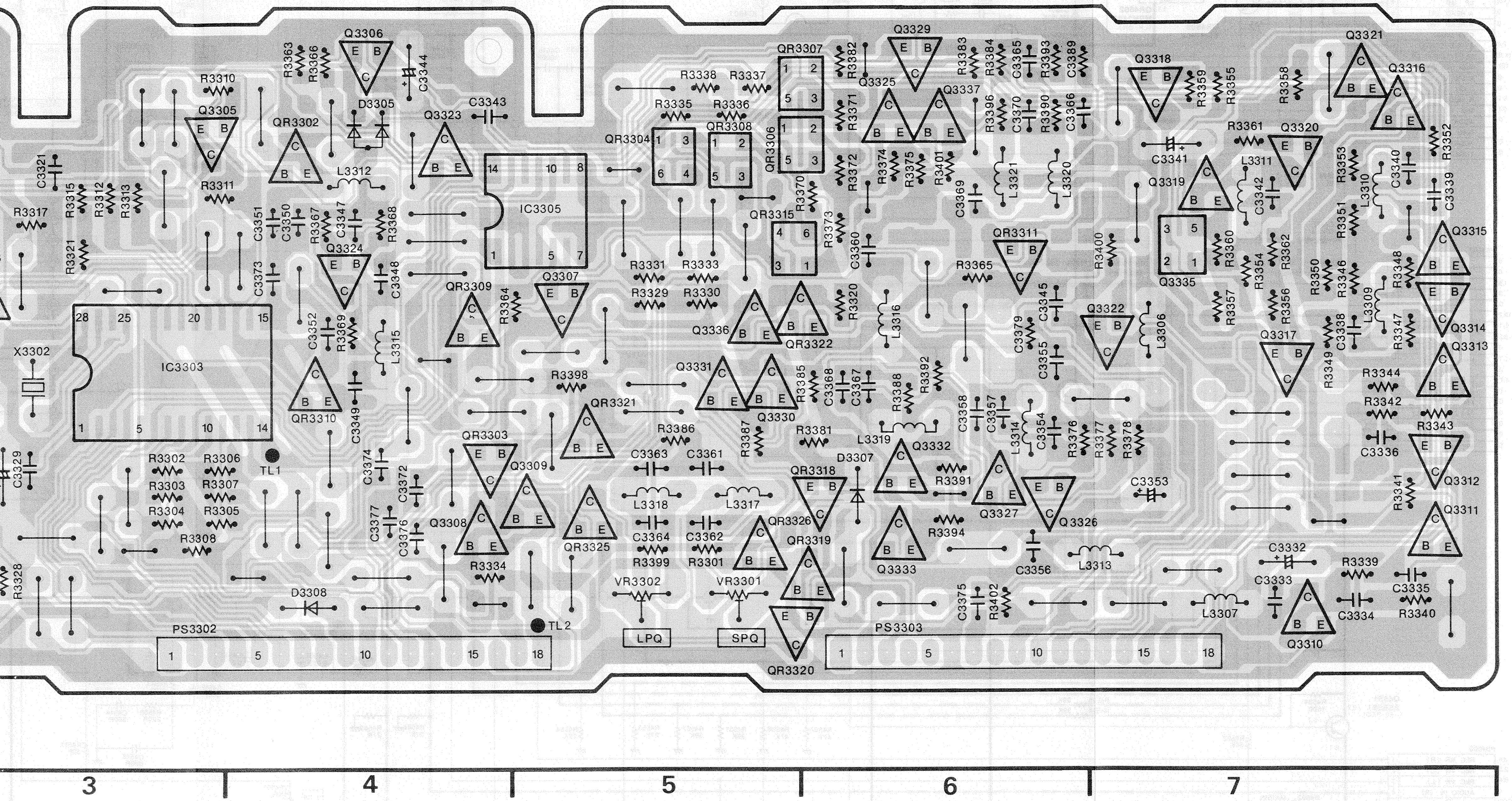
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4 5 6 7 8 9 10 11 12 13

3-13. SUB LUMINANCE & CHROMINANCE PACK C.B.A. (VEP03A40A)


C
B
A
1
2
3
4
5
6
TL1
TL2
TL3
TL4
VCO
LPQ
SPQ
IC3501
IC3502
IC3303
IC3304
IC3305
PS3501
PS3302
PS3303
X3501
X3302
VR3301
VR3302
Q3501
Q3303
Q3304
Q3305
Q3306
Q3307
Q3308
Q3309
Q3318
Q3319
Q3323
Q3324
Q3325
Q3326
Q3327
Q3329
Q3330
Q3331
Q3332
Q3333
Q3335
Q3336
Q3337
QR3302
QR3303
QR3304
QR3306
QR3307
QR3308
QR3309
QR3310
QR3311
QR3315
QR3318
QR3319
QR3320
QR3321
QR3322
QR3325
QR3326
D3501
D3502
D3303
D3305
D3307
D3308
L3501
L3502
L3503
L3504
L3304
L3305
L3306
L3312
L3313
L3314
L3315
L3316
L3317
L3318
L3319
L3320
L3321
C3315
C3509
C3504
C3505
C3511
C3514
C3508
C3502
C3506
C3501
C3510
C3507
C3520
C3512
C3513
C3518
C3519
C3521
C3517
C3516
C3326
C3327
C3325
C3324
C3323
C3322
C3321
C3331
C3330
C3328
C3329
C3343
C3344
C3341
C3351
C3350
C3347
C3348
C3373
C3352
C3349
C3374
C3372
C3377
C3376
C3363
C3361
C3364
C3362
C3360
C3365
C3366
C3367
C3368
C3369
C3370
C3389
C3345
C3379
C3355
C3358
C3357
C3354
C3353
C3356
C3375
R3326
R3327
R3325
R3323
R3324
R3322
R3317
R3315
R3312
R3313
R3321
R3310
R3311
R3363
R3366
R3367
R3368
R3369
R3364
R3398
R3386
R3387
R3302
R3303
R3304
R3306
R3307
R3305
R3308
R3328
R3334
R3399
R3301
R3338
R3337
R3335
R3336
R3331
R3333
R3329
R3330
R3370
R3371
R3372
R3373
R3320
R3374
R3375
R3401
R3382
R3383
R3384
R3393
R3396
R3390
R3385
R3388
R3392
R3381
R3391
R3394
R3365
R3400
R3376
R3377
R3378
R3402
R3359
R3501
R3502
R3503
R3504
R3505
R3506
R3507
R3508
R3509
R3510
R3511
3503
E
B
C
N

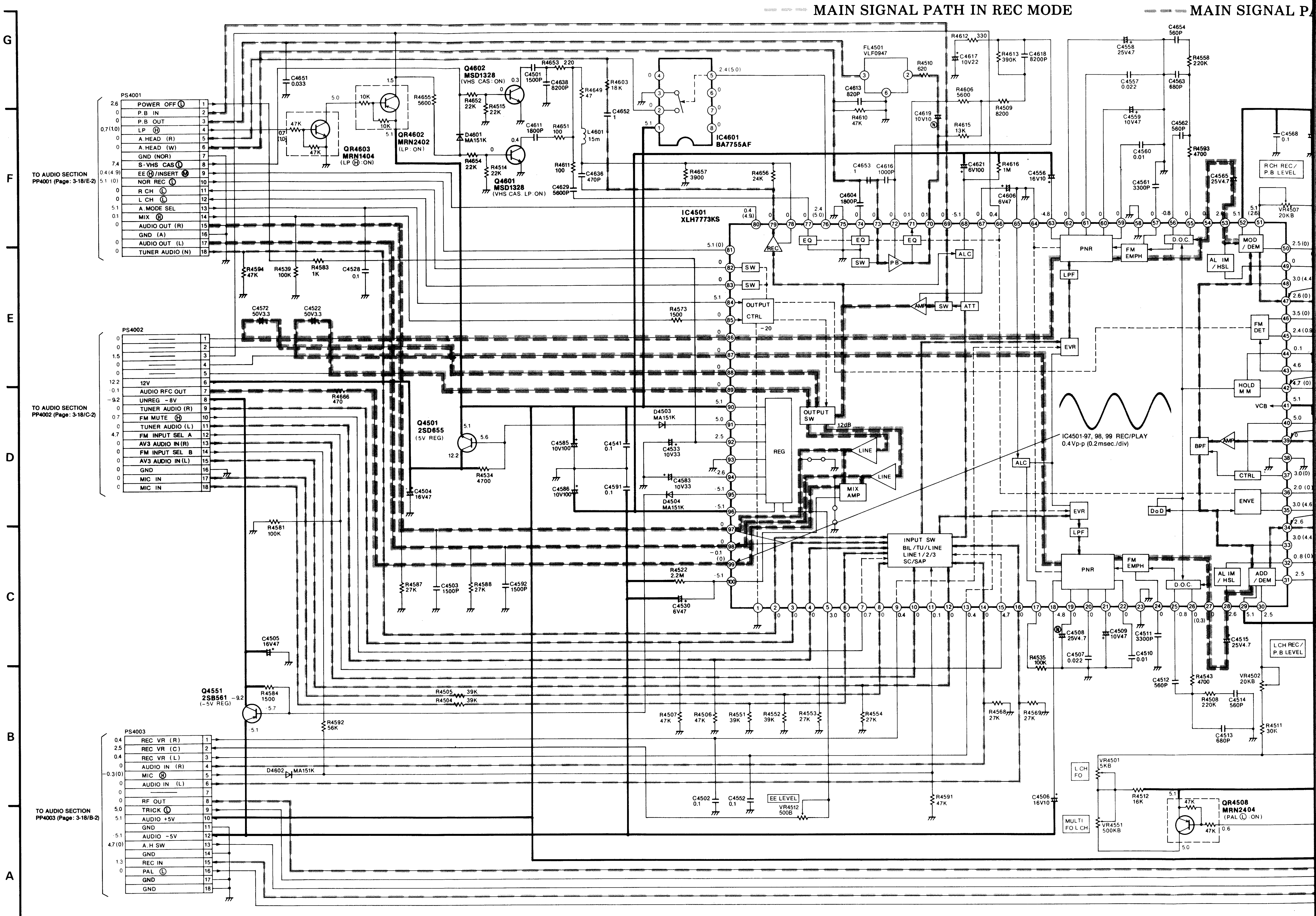
. (VEP03A40A)


Q3306
R3363
R3366
C3344
QR3307
Q3329
R3382
R3383
R3384
C3365
R3393
C3389
Q3318
Q3321
Q3316
R3310
Q3305
R3338
R3337
Q3325
Q3337
R3359
R3355
R3358
D3305
C3343
R3335
R3336
R3371
R3396
C3370
R3390
C3366
R3361
Q3320
R3352
QR3302
Q3323
QR3304
QR3308
QR3306
C3341
L3311
R3353
C3340
C3321
R3311
L3312
IC3305
R3372
R3374
R3375
R3401
L3321
L3320
Q3319
C3342
L3310
C3339
R3317
R3315
R3312
R3313
C3351
C3350
R3367
C3347
R3368
R3370
QR3315
C3369
R3351
Q3315
R3373
QR3311
R3400
Q3335
R3360
R3362
R3354
R3321
Q3324
C3373
C3348
Q3307
R3331
R3333
C3360
R3365
R3350
R3346
R3348
QR3309
R3364
R3329
R3330
R3320
L3316
C3345
Q3322
R3357
R3356
L3306
Q3314
IC3303
C3352
R3369
L3315
Q3336
QR3322
C3379
Q3317
C3338
L3309
R3347
Q3313
X3302
C3355
R3349
QR3310
C3349
R3398
Q3331
Q3330
R3385
C3368
C3367
R3388
R3392
R3344
R3342
QR3321
C3358
C3357
L3314
C3354
R3376
R3377
R3378
R3343
C3336
QR3303
R3386
R3387
R3381
L3319
Q3332
Q3312
C3329
R3302
R3306
TL1
C3374
C3372
Q3309
C3363
C3361
D3307
QR3318
R3391
C3353
R3341
R3303
R3307
Q3327
Q3326
Q3311
L3318
L3317
QR3326
R3304
R3305
C3377
C3376
Q3308
QR3325
C3364
C3362
QR3319
Q3333
R3394
C3332
C3356
L3313
R3308
R3334
R3399
R3301
C3333
R3339
C3335
R3328
VR3302
VR3301
D3308
C3375
R3402
L3307
C3334
R3340
TL2
PS3302
LPQ
SPQ
PS3303
Q3310
QR3320
E
B
C
1
5
10
15
18
14
8
25
20
28
2
3
4
6
7

SUB LUMINANCE & CHROMINANCE PACK C.B.A.	
Transistor	
Q3303	B-3
Q3304	C-2
Q3305	C-3
Q3306	C-4
Q3307	B-5
Q3308	A-4
Q3309	A-5
Q3310	A-7
Q3311	A-7
Q3312	B-7
Q3313	B-7
Q3314	B-7
Q3315	B-7
Q3316	C-7
Q3317	B-7
Q3318	C-7
Q3319	C-7
Q3320	C-7
Q3321	C-7
Q3322	B-7
Q3323	C-4
Q3324	B-4
Q3325	C-6
Q3326	A-6
Q3327	A-6
Q3329	C-6
Q3330	B-5
Q3331	B-5
Q3332	B-6
Q3333	A-6
Q3335	B-7
Q3336	B-5
Q3337	C-6
Q3501	B-1
Transistor & Resistor	
QR3302	C-4
QR3303	B-4
QR3304	C-5
QR3306	C-5
QR3307	C-5
QR3308	C-5
QR3309	B-4
QR3310	B-4
QR3311	B-6
QR3315	B-5
QR3318	A-6
QR3319	A-6
QR3320	A-5
QR3321	B-5
QR3322	B-5
QR3325	A-5
QR3326	A-5
Integrated Circuit	
IC3303	B-3
IC3304	A-3
IC3305	B-5
IC3501	B-2
IC3502	A-1
Adjustment	
C3502	B-2
VR3301	A-5
VR3302	A-5
Connector	
PS3302	A-3
PS3303	A-6
PS3501	A-1

ADDRESS INFORMATION

3-14. Hi-Fi AUDIO PACK SCHEMATIC DIAGRAM


MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL P
PS4001
POWER OFF Ⓛ
P.B IN
P.B OUT
LP Ⓗ
A.HEAD (R)
A.HEAD (W)
GND (NOR)
S-VHS CAS Ⓛ
EE Ⓗ/INSERT Ⓜ
NOR REC Ⓛ
R CH Ⓛ
L CH Ⓛ
A.MODE SEL
MIX Ⓗ
AUDIO OUT (R)
GND (A)
AUDIO OUT (L)
TUNER AUDIO (N)
TO AUDIO SECTION PP4001 (Page: 3-18/E-2)
PS4002
12V
AUDIO RFC OUT
UNREG -8V
TUNER AUDIO (R)
FM MUTE Ⓗ
TUNER AUDIO (L)
FM INPUT SEL A
AV3 AUDIO IN (R)
FM INPUT SEL B
AV3 AUDIO IN (L)
GND
MIC IN
MIC IN
TO AUDIO SECTION PP4002 (Page: 3-18/C-2)
PS4003
REC VR (R)
REC VR (C)
REC VR (L)
AUDIO IN (R)
MIC Ⓗ
AUDIO IN (L)
RF OUT
TRICK Ⓛ
AUDIO +5V
GND
AUDIO -5V
A.H SW
GND
REC IN
PAL Ⓛ
GND
GND
TO AUDIO SECTION PP4003 (Page: 3-18/B-2)
Q4602 MSD1328 (VHS CAS:ON)
Q4601 MSD1328 (VHS CAS LP:ON)
QR4602 MRN2402 (LP:ON)
QR4603 MRN1404 (LP Ⓗ:ON)
D4601 MA151K
L4601 15m
IC4601 BA7755AF
FL4501 VLF0947
IC4501 XLH7773KS
EQ
SW
PB
REC
ALC
OUTPUT CTRL
OUTPUT SW
REG
LINE
MIX AMP
INPUT SW BIL/TU/LINE LINE1/2/3 SC/SAP
PNR
FM EMPH
D.O.C.
LPF
EVR
ATT
AMP
MOD/DEM
AL IM/HSL
ADD/DEM
FM DET
HOLD MM
BPF
CTRL
ENVE
DoD
VCB
IC4501-97, 98, 99 REC/PLAY 0.4Vp-p (0.2msec./div)
Q4501 2SD855 (5V REG)
Q4551 2SB561 (-5V REG)
D4503 MA151K
D4504 MA151K
D4602 MA151K
R CH REC/P.B LEVEL
L CH REC/P.B LEVEL
VR4507 20KB
VR4502 20KB
VR4501 5KB
VR4551 500KB
VR4512 500B
EE LEVEL
L CH FO
MULTI FO L CH
QR4508 MRN2404 (PAL Ⓛ:ON)
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

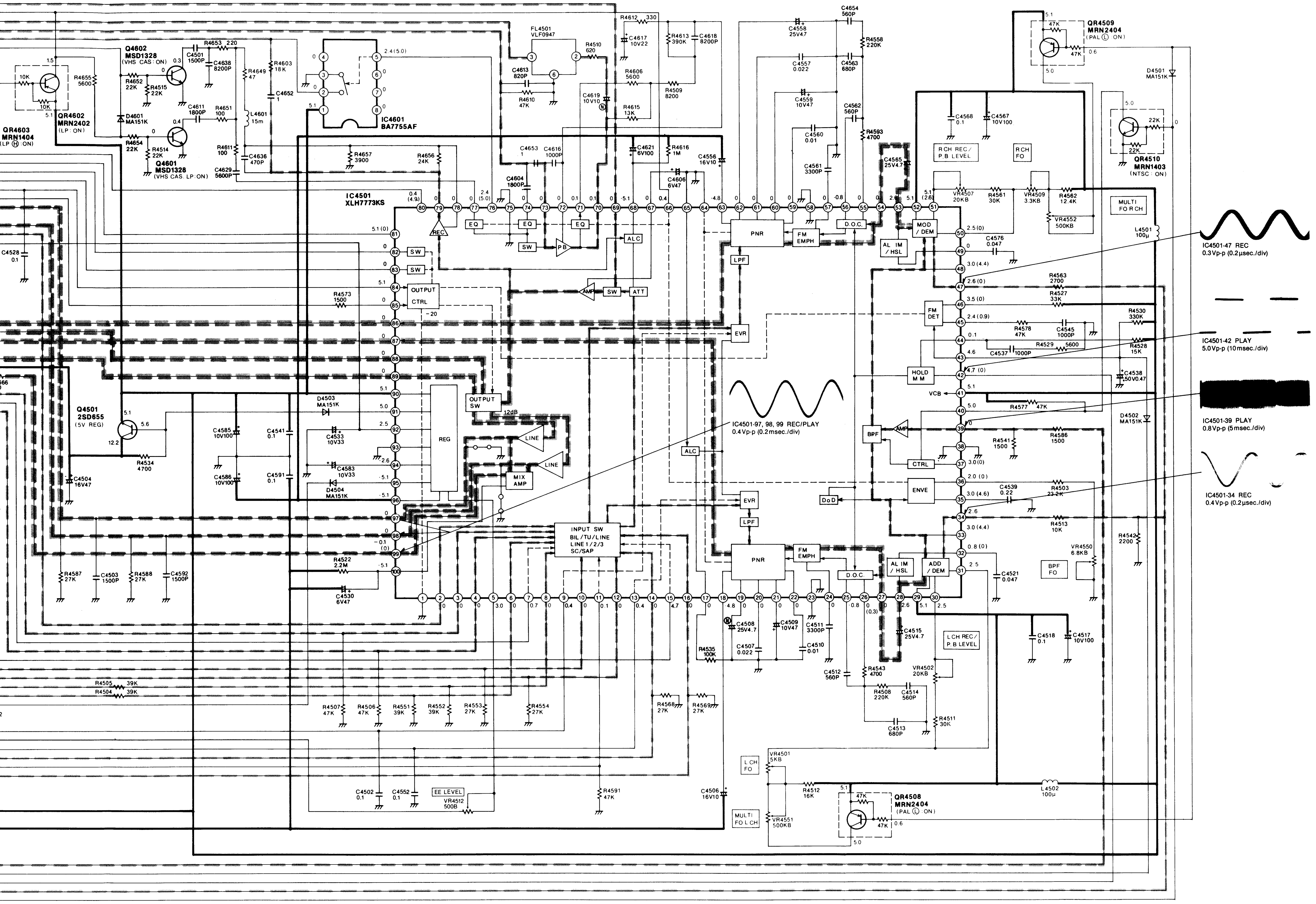
- LINE IN SIGNAL LEVEL... −10dB 1kHz

NOTE: DO NOT USE ANY
ORDERING. WHEN

TIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE


IC4501
XLH7773KS
IC4601
BA7755AF
FL4501
VLF0947
Q4602
MSD1328
(VHS CAS.:ON)
Q4601
MSD1328
(VHS CAS. LP:ON)
QR4602
MRN2402
(LP:ON)
QR4603
MRN1404
Q4501
2SD655
(5V REG)
QR4509
MRN2404
(PAL Ⓛ:ON)
QR4510
MRN1403
(NTSC:ON)
QR4508
MRN2404
(PAL Ⓛ:ON)
D4501
MA151K
D4502
MA151K
D4503
MA151K
D4504
MA151K
D4601
MA151K
L4501
100µ
L4502
100µ
L4601
15m
PNR
FM EMPH
D.O.C.
LPF
EVR
AL IM / HSL
MOD / DEM
ADD / DEM
FM DET
HOLD M M
BPF
AMP
CTRL
ENVE
DoD
ALC
ATT
SW
EQ
PB
REC
OUTPUT CTRL
OUTPUT SW
REG
LINE
MIX AMP
INPUT SW
BIL/TU/LINE
LINE 1/2/3
SC/SAP
12dB
VCB
R CH REC/
P.B LEVEL
R CH
FO
MULTI
FO R CH
L CH REC/
P.B LEVEL
L CH
FO
MULTI
FO L CH
BPF
FO
EE LEVEL
VR4512
500B
VR4501
5KB
VR4551
500KB
VR4502
20KB
VR4507
20KB
VR4509
3.3KB
VR4552
500KB
VR4550
6.8KB
IC4501-47 REC
0.3Vp-p (0.2µsec./div)
IC4501-42 PLAY
5.0Vp-p (10msec./div)
IC4501-39 PLAY
0.8Vp-p (5msec./div)
IC4501-34 REC
0.4Vp-p (0.2µsec./div)
IC4501-97, 98, 99 REC/PLAY
0.4Vp-p (0.2msec./div)
3
4
5
6
7
8
9
10
11
12

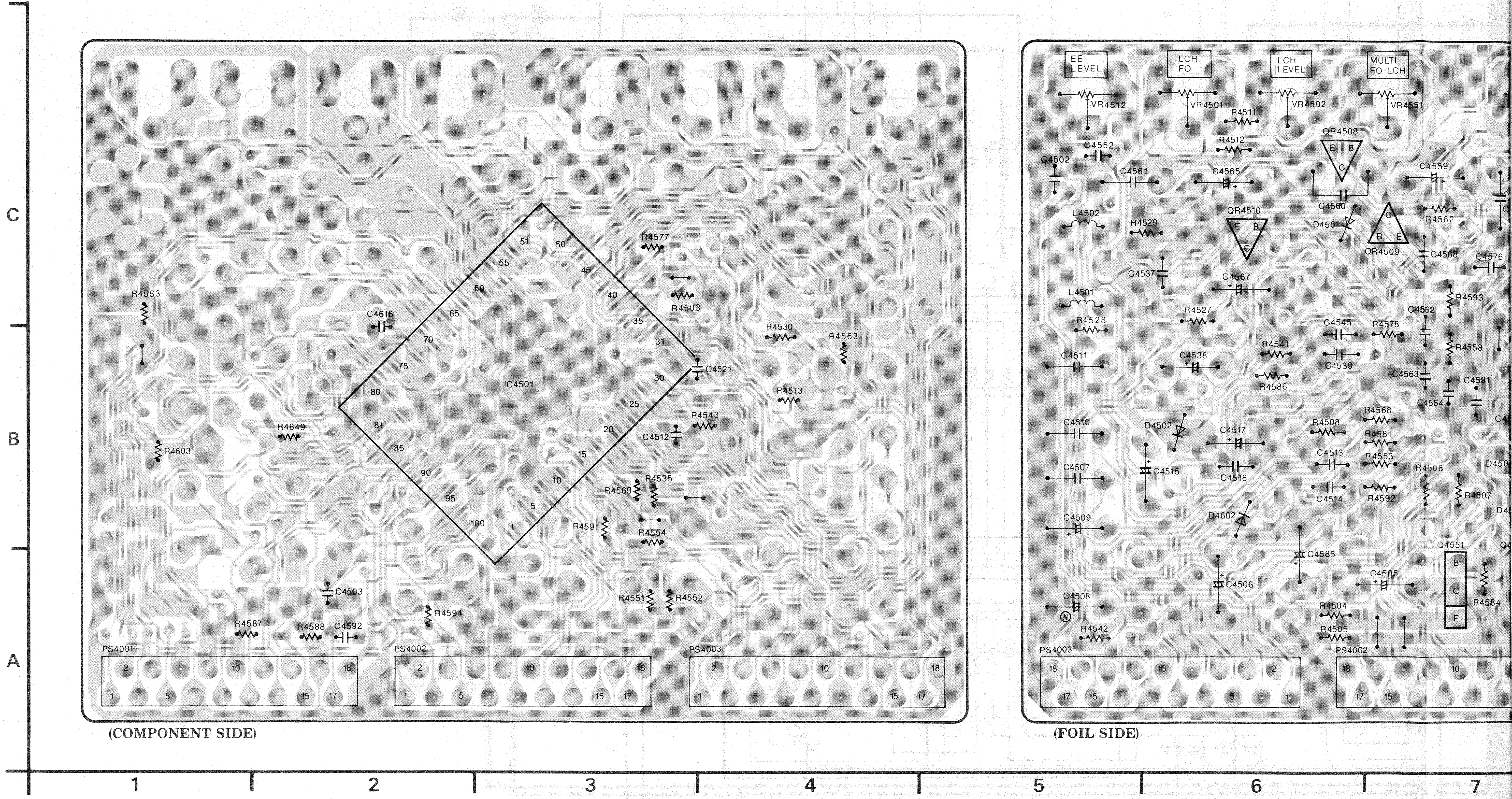
ACKETS (   ) ON THIS DIAGRAM IS RECORD MODE

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE
WITH PAL COLOUR SIGNAL. (SP MODE)

• LINE IN SIGNAL LEVEL.... −10dB 1kHz

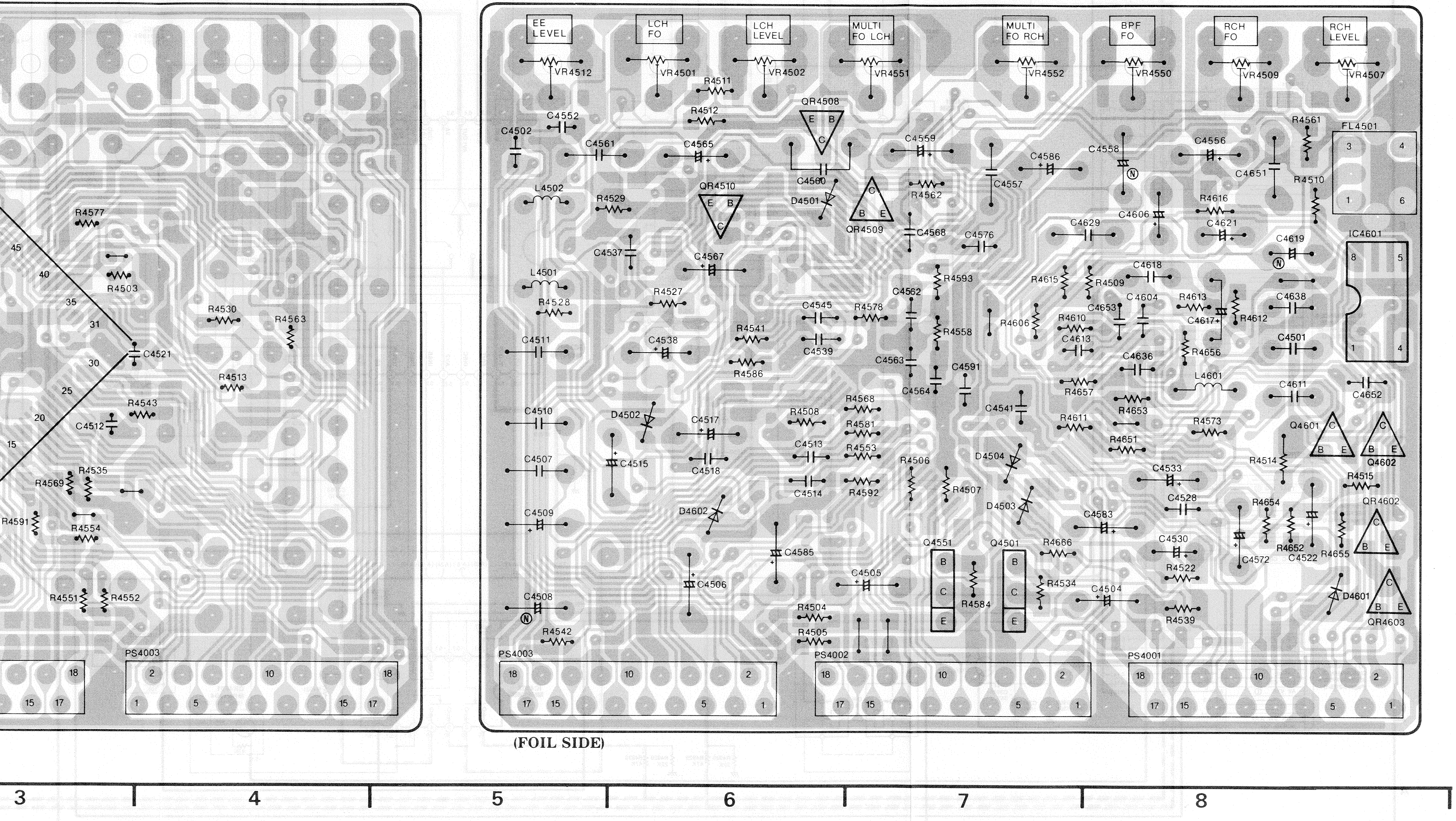
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-15. Hi-Fi AUDIO PACK C.B.A. (VEP04410E)


C
B
A
1
2
3
4
5
6
7
IC4501
R4583
C4616
R4649
R4603
R4577
R4503
R4530
R4563
C4521
R4513
R4543
C4512
R4569
R4535
R4591
R4554
R4551
R4552
C4503
R4587
R4588
C4592
R4594
PS4001
PS4002
PS4003
EE LEVEL
LCH FO
LCH LEVEL
MULTI FO LCH
VR4512
VR4501
VR4502
VR4551
R4511
R4512
QR4508
C4552
C4502
C4561
C4565
C4559
C4560
D4501
R4562
L4502
R4529
QR4510
QR4509
C4568
C4576
C4537
C4567
L4501
R4593
R4528
R4527
C4562
C4545
R4578
R4558
C4511
C4538
R4541
C4539
C4563
R4586
C4564
C4591
C4510
D4502
C4517
R4508
R4568
R4581
C4513
R4553
C4507
C4515
C4518
R4506
C4514
R4592
R4507
C4509
D4602
C4585
Q4551
C4506
C4505
C4508
R4504
R4584
R4542
R4505
PS4002

(COMPONENT SIDE)

(FOIL SIDE)


EE LEVEL
VR4512
LCH FO
VR4501
LCH LEVEL
VR4502
MULTI FO LCH
VR4551
MULTI FO RCH
VR4552
BPF FO
VR4550
RCH FO
VR4509
RCH LEVEL
VR4507
R4511
R4512
QR4508
C4552
C4502
C4561
C4565
C4560
D4501
QR4509
C4559
R4562
C4557
C4586
C4558
C4556
C4651
R4561
R4510
FL4501
L4502
R4529
QR4510
C4568
C4576
C4629
C4606
R4616
C4621
C4619
IC4601
C4537
C4567
R4593
R4615
R4509
C4618
L4501
R4528
R4527
C4545
R4578
C4562
R4606
R4610
C4653
C4604
R4613
C4617
R4612
C4638
C4511
C4538
R4541
C4539
R4558
C4613
C4636
R4656
C4501
R4586
C4563
C4564
C4591
R4657
L4601
C4611
C4652
C4510
D4502
C4517
R4508
R4568
R4581
C4541
R4611
R4653
R4573
Q4601
Q4602
C4515
C4518
C4513
R4553
D4504
R4651
R4514
C4507
C4514
R4592
R4506
R4507
C4533
R4515
D4503
C4528
QR4602
C4509
D4602
C4585
C4583
R4654
C4506
Q4551
Q4501
R4666
C4530
C4572
R4652
C4522
R4655
C4505
R4584
R4534
C4504
R4522
D4601
QR4603
C4508
R4504
R4505
R4539
R4542
PS4003
PS4002
PS4001
R4577
R4503
R4530
R4563
C4521
R4513
R4543
C4512
R4535
R4569
R4591
R4554
R4551
R4552
3
4
5
6
7
8

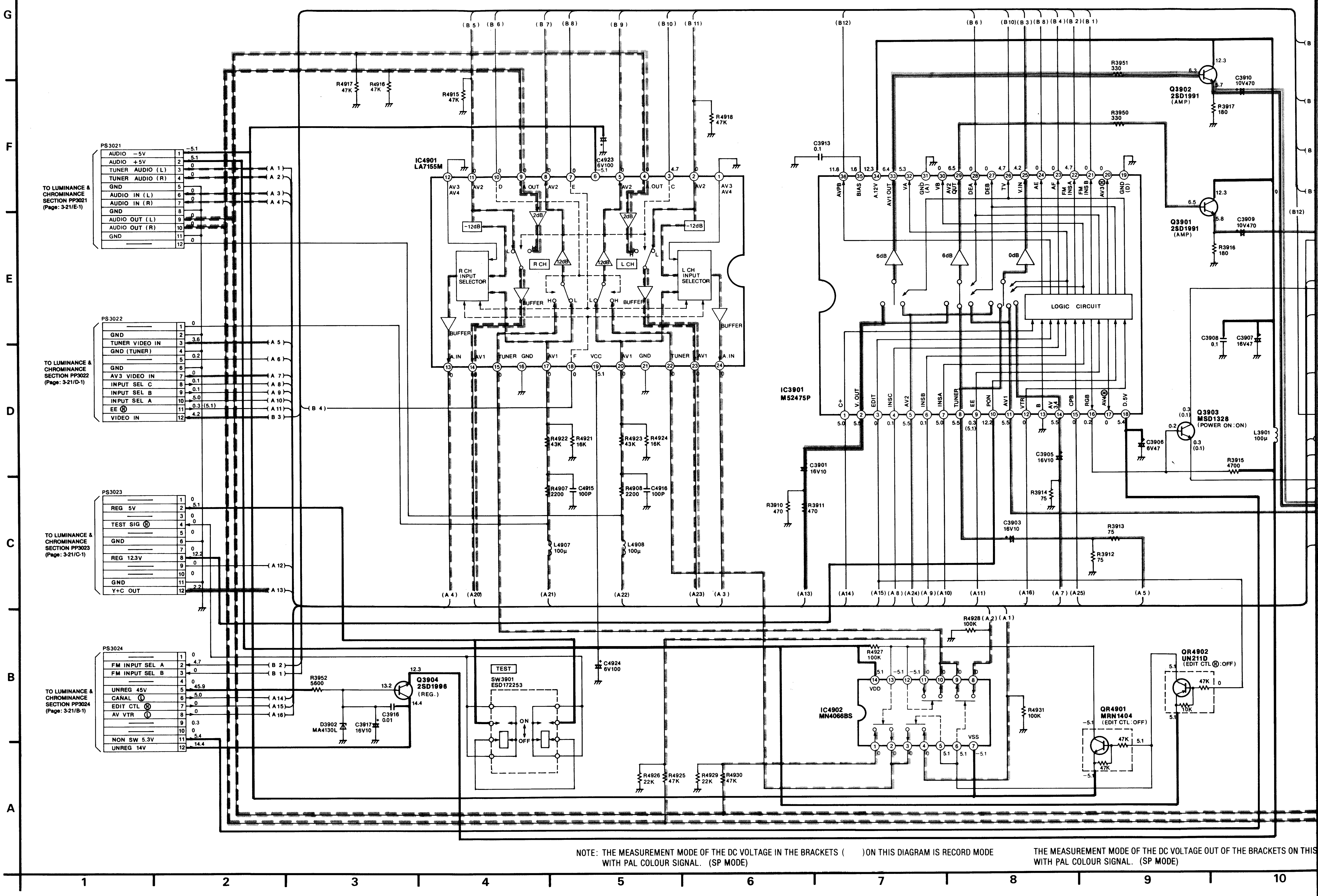
(FOIL SIDE)

Hi-Fi AUDIO PACK C.B.A.	
Transistor	
Q4501	A-7
Q4551	A-7
Q4601	B-8
Q4602	B-8
Transistor & Resistor	
QR4508	C-6
QR4509	C-7
QR4510	C-6
QR4602	B-8
QR4603	A-8
Integrated Circuit	
IC4501	B-3
IC4601	C-8
Adjustment	
VR4501	C-6
VR4502	C-6
VR4507	C-8
VR4509	C-8
VR4512	C-5
VR4550	C-8
VR4551	C-7
VR4552	C-7
Connector	
PS4001	A-1
PS4001	A-8
PS4002	A-2
PS4002	A-7
PS4003	A-4
PS4003	A-5

ADDRESS INFORMATION

3-16. INPUT/OUTPUT PACK SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE AUDIO
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE AUDIO

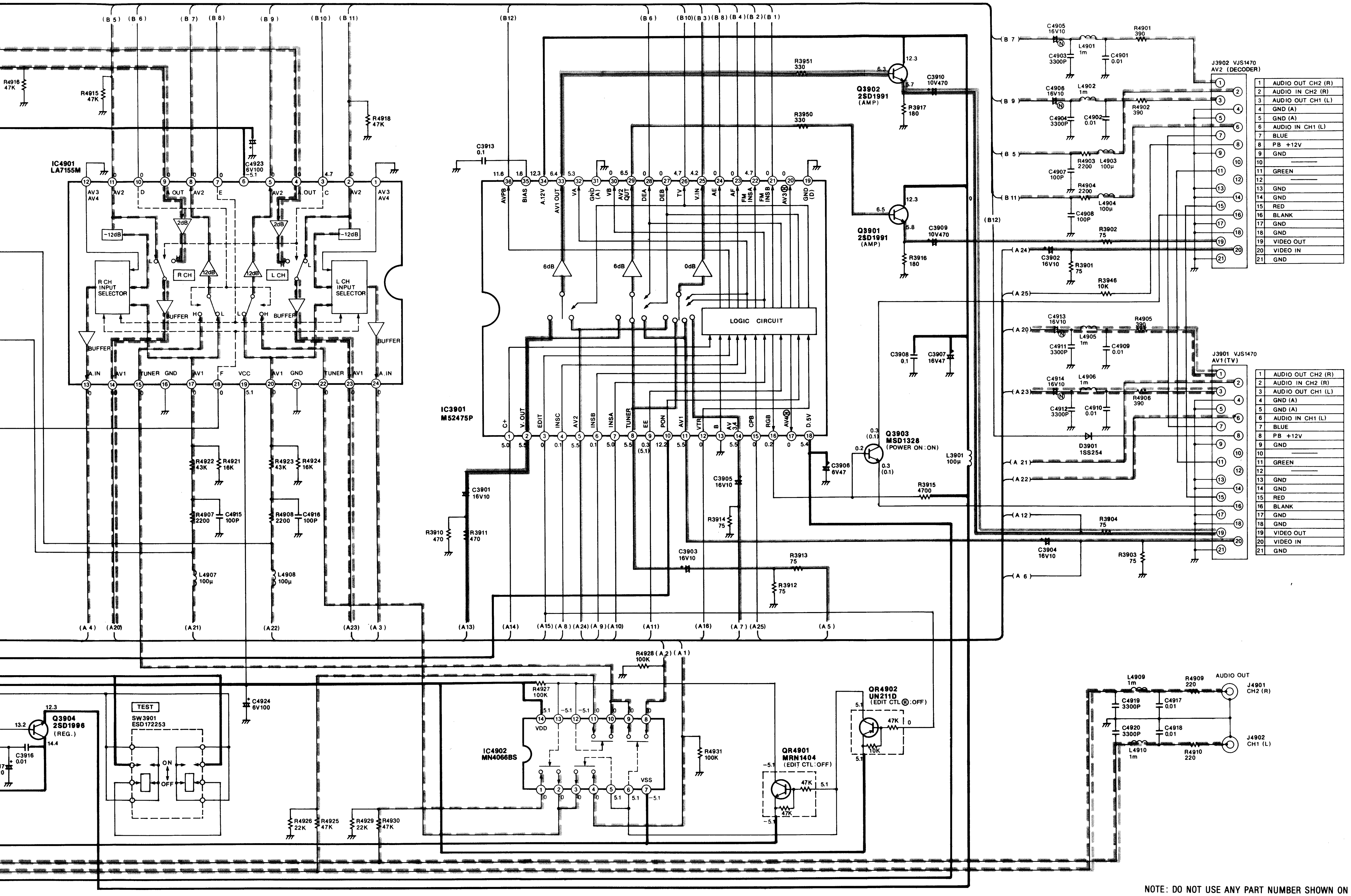

G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
PS3021
AUDIO −5V
AUDIO +5V
TUNER AUDIO (L)
TUNER AUDIO (R)
GND
AUDIO IN (L)
AUDIO IN (R)
GND
AUDIO OUT (L)
AUDIO OUT (R)
GND
TO LUMINANCE & CHROMINANCE SECTION PP3021 (Page: 3-21/E-1)
PS3022
GND
TUNER VIDEO IN
GND (TUNER)
GND
AV3 VIDEO IN
INPUT SEL C
INPUT SEL B
INPUT SEL A
EE Ⓗ
VIDEO IN
TO LUMINANCE & CHROMINANCE SECTION PP3022 (Page: 3-21/D-1)
PS3023
REG 5V
TEST SIG Ⓗ
GND
REG 12.3V
GND
Y+C OUT
TO LUMINANCE & CHROMINANCE SECTION PP3023 (Page: 3-21/C-1)
PS3024
FM INPUT SEL A
FM INPUT SEL B
UNREG 45V
CANAL Ⓛ
EDIT CTL Ⓗ
AV VTR Ⓛ
NON SW 5.3V
UNREG 14V
TO LUMINANCE & CHROMINANCE SECTION PP3024 (Page: 3-21/B-1)
IC4901 LA7155M
R CH INPUT SELECTOR
L CH INPUT SELECTOR
BUFFER
-12dB
2dB
12dB
R CH
L CH
LOGIC CIRCUIT
IC3901 M52475P
Q3902 2SD1991 (AMP)
Q3901 2SD1991 (AMP)
Q3903 MSD1328 (POWER ON:ON)
Q3904 2SD1996 (REG.)
D3902 MA4130L
IC4902 MN4066BS
QR4902 UN211D (EDIT CTL Ⓗ:OFF)
QR4901 MRN1404 (EDIT CTL:OFF)
TEST
SW3901 ESD172253
ON
OFF
R4917 47K
R4916 47K
R4915 47K
R4918 47K
C4923 6V100
R4922 43K
R4921 16K
R4923 43K
R4924 16K
R4907 2200
C4915 100P
R4908 2200
C4916 100P
L4907 100µ
L4908 100µ
C4924 6V100
R3951 330
R3950 330
C3910 10V470
R3917 180
C3909 10V470
R3916 180
C3913 0.1
C3908 0.1
C3907 16V47
C3901 16V10
R3910 470
R3911 470
C3905 16V10
R3914 75
C3903 16V10
R3913 75
R3912 75
C3906 6V47
R3915 4700
L3901 100µ
R3952 5600
C3917 16V10
C3916 0.01
R4927 100K
R4928 100K
R4931 100K
R4926 22K
R4925 47K
R4929 22K
R4930 47K

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS WITH PAL COLOUR SIGNAL. (SP MODE)

TIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE


IC4901 LA7155M
R CH INPUT SELECTOR
L CH INPUT SELECTOR
BUFFER
IC3901 M52475P
LOGIC CIRCUIT
Q3902 2SD1991 (AMP)
Q3901 2SD1991 (AMP)
Q3903 MSD1328 (POWER ON:ON)
Q3904 2SD1996 (REG.)
TEST
SW3901 ESD172253
ON
OFF
IC4902 MN4066BS
QR4901 MRN1404 (EDIT CTL:OFF)
QR4902 UN211D (EDIT CTL Ⓡ:OFF)
J3902 VJS1470 AV2 (DECODER)
J3901 VJS1470 AV1 (TV)
AUDIO OUT
J4901 CH2 (R)
J4902 CH1 (L)
D3901 1SS254
L3901 100μ

J3902 VJS1470 AV2 (DECODER)

1	AUDIO OUT CH2 (R)
2	AUDIO IN CH2 (R)
3	AUDIO OUT CH1 (L)
4	GND (A)
5	GND (A)
6	AUDIO IN CH1 (L)
7	BLUE
8	PB +12V
9	GND
10	———
11	GREEN
12	———
13	GND
14	GND
15	RED
16	BLANK
17	GND
18	GND
19	VIDEO OUT
20	VIDEO IN
21	GND

J3901 VJS1470 AV1 (TV)

1	AUDIO OUT CH2 (R)
2	AUDIO IN CH2 (R)
3	AUDIO OUT CH1 (L)
4	GND (A)
5	GND (A)
6	AUDIO IN CH1 (L)
7	BLUE
8	PB +12V
9	GND
10	———
11	GREEN
12	———
13	GND
14	GND
15	RED
16	BLANK
17	GND
18	GND
19	VIDEO OUT
20	VIDEO IN
21	GND

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( )ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

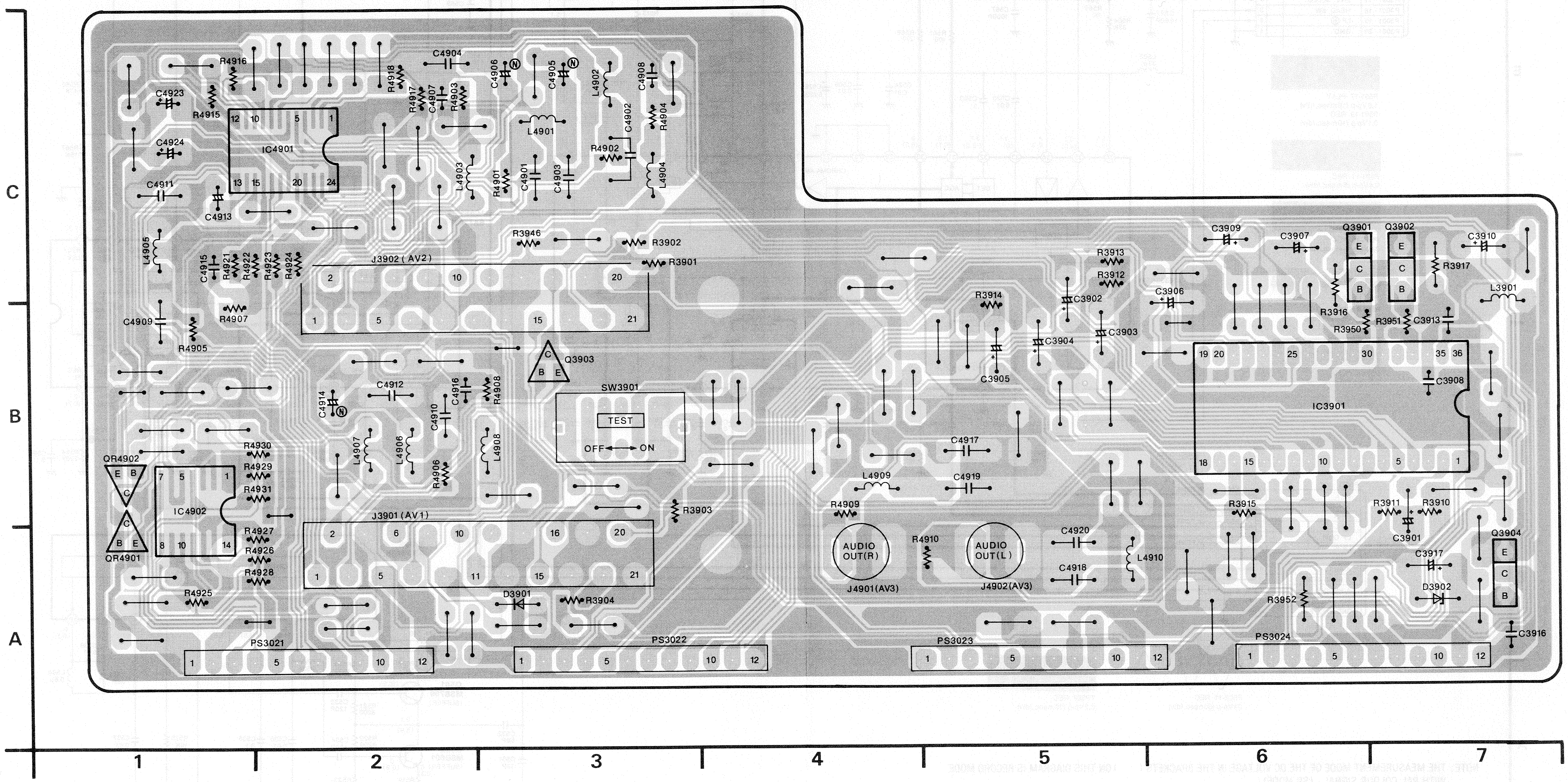
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4 5 6 7 8 9 10 11 12

3-17. INPUT/OUTPUT PACK C.B.A. (VEP03A38A)

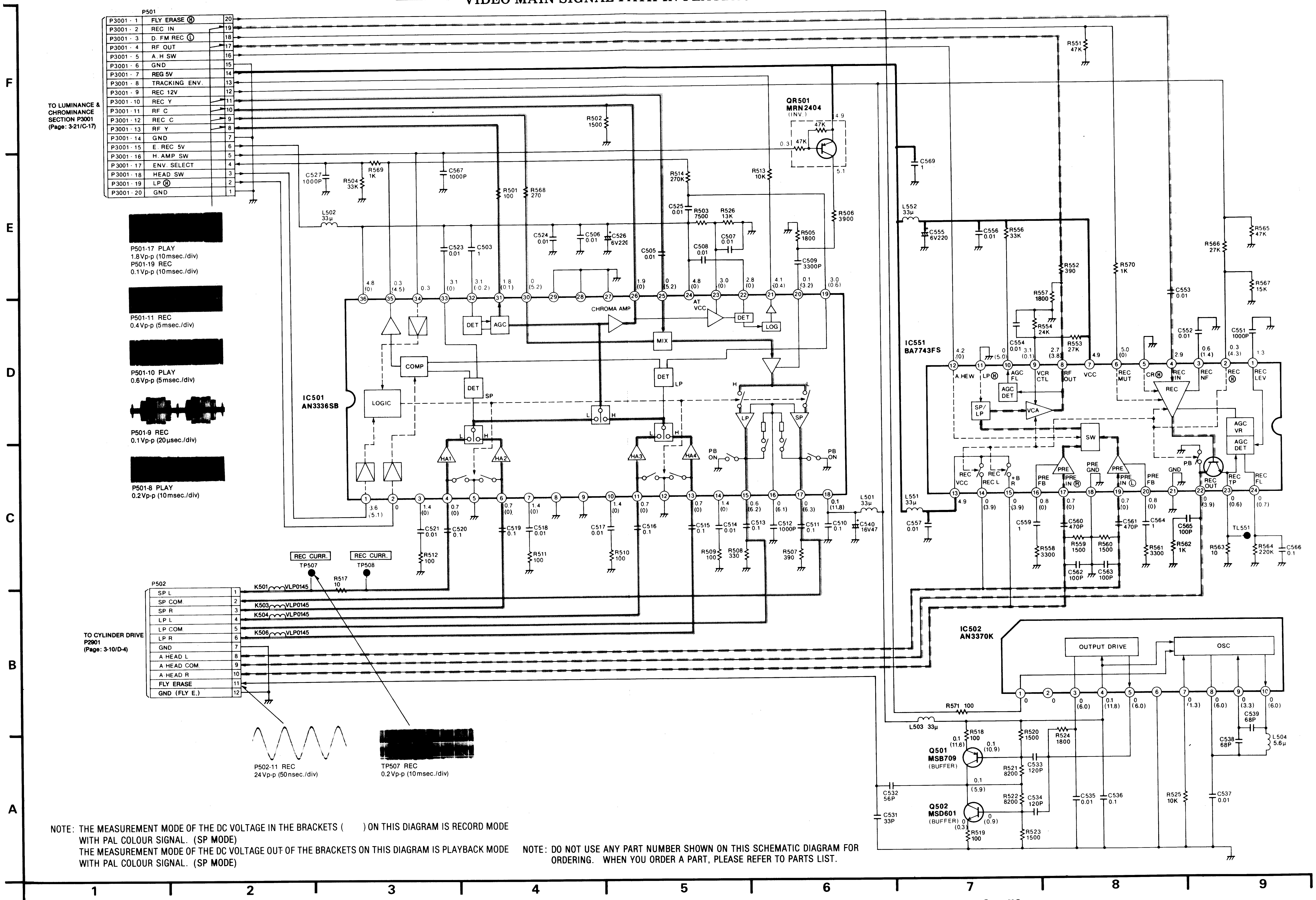
INPUT/OUTPUT PACK C.B.A.			
Transistor		**Integrated Circuit**	
Q3901	C-6	IC3901	B-6
Q3902	C-7	IC4901	C-2
Q3903	B-3	IC4902	B-1
Q3904	A-7	**Connector**	
Transistor & Resistor		PS3021	A-2
QR4901	A-1	PS3022	A-3
QR4902	B-1	PS3023	A-5
		PS3024	A-6

ADDRESS INFORMATION


C
B
A
1
2
3
4
5
6
7
R4916
C4923
R4915
C4924
IC4901
12
10
5
1
13
15
20
24
C4911
C4913
R4918
R4917
C4907
R4903
C4904
C4906
C4905
L4901
L4903
R4901
C4901
C4903
R4902
C4902
L4902
C4908
R4904
L4904
L4905
C4915
R4921
R4922
R4923
R4924
R3946
R3902
R3901
J3902 (AV2)
21
C4909
R4907
R4905
Q3903
C4914
C4912
C4910
C4916
R4908
L4907
L4906
R4906
L4908
SW3901
TEST
OFF ON
QR4902
E B
C
IC4902
7
8
14
QR4901
R4930
R4929
R4931
R4927
R4926
R4928
R4925
J3901 (AV1)
16
11
D3901
R3904
R3903
PS3021
PS3022
PS3023
PS3024
L4909
R4909
C4917
C4919
R4910
AUDIO OUT(R)
J4901(AV3)
AUDIO OUT(L)
J4902(AV3)
C4920
C4918
L4910
R3914
C3905
R3913
R3912
C3902
C3904
C3903
C3906
C3909
C3907
Q3901
Q3902
E
C
B
R3917
C3910
L3901
R3916
R3951
R3950
C3913
IC3901
19
25
30
35
36
18
C3908
R3915
R3911
R3910
C3901
C3917
D3902
R3952
Q3904
C3916

3-18. HEAD AMP SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
Hi-Fi AUDIO MAIN SIGNAL PATH IN REC MODE
Hi-Fi AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE


P501
P3001 - 1 FLY ERASE Ⓗ 20
P3001 - 2 REC IN 19
P3001 - 3 D. FM REC Ⓛ 18
P3001 - 4 RF OUT 17
P3001 - 5 A.H SW 16
P3001 - 6 GND 15
P3001 - 7 REG 5V 14
P3001 - 8 TRACKING ENV. 13
P3001 - 9 REC 12V 12
P3001 - 10 REC Y 11
P3001 - 11 RF C 10
P3001 - 12 REC C 9
P3001 - 13 RF Y 8
P3001 - 14 GND 7
P3001 - 15 E. REC 5V 6
P3001 - 16 H. AMP SW 5
P3001 - 17 ENV. SELECT 4
P3001 - 18 HEAD SW 3
P3001 - 19 LP Ⓗ 2
P3001 - 20 GND 1
TO LUMINANCE & CHROMINANCE SECTION P3001 (Page: 3-21/C-17)
P501-17 PLAY 1.8Vp-p (10msec./div)
P501-19 REC 0.1Vp-p (10msec./div)
P501-11 REC 0.4Vp-p (5msec./div)
P501-10 PLAY 0.6Vp-p (5msec./div)
P501-9 REC 0.1Vp-p (20μsec./div)
P501-8 PLAY 0.2Vp-p (10msec./div)
IC501 AN3336SB
IC551 BA7743FS
IC502 AN3370K
QR501 MRN2404 (INV.)
Q501 MSB709 (BUFFER)
Q502 MSD601 (BUFFER)
CHROMA AMP
COMP
LOGIC
DET
AGC
MIX
LOG
HA1
HA2
HA3
HA4
SP
LP
PB ON
A.HEW
LP Ⓗ
AGC FL
VCR CTL
RF OUT
VCC
REC MUT
CR Ⓗ
REC IN
REC NF
REC Ⓗ
REC LEV
AGC DET
VCA
SP/LP
SW
PRE
PRE GND
PRE FB
REC VCC
REC L
REC R
REC OUT
REC TP
REC FL
AGC VR
OUTPUT DRIVE
OSC
REC CURR. TP507
REC CURR. TP508
TL551
P502
SP L 1
SP COM. 2
SP R 3
LP L 4
LP COM. 5
LP R 6
GND 7
A.HEAD L 8
A.HEAD COM. 9
A.HEAD R 10
FLY ERASE 11
GND (FLY E.) 12
TO CYLINDER DRIVE P2901 (Page: 3-10/D-4)
K501 VLP0145
K503 VLP0145
K504 VLP0145
K506 VLP0145
P502-11 REC 24Vp-p (50nsec./div)
TP507 REC 0.2Vp-p (10msec./div)
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9

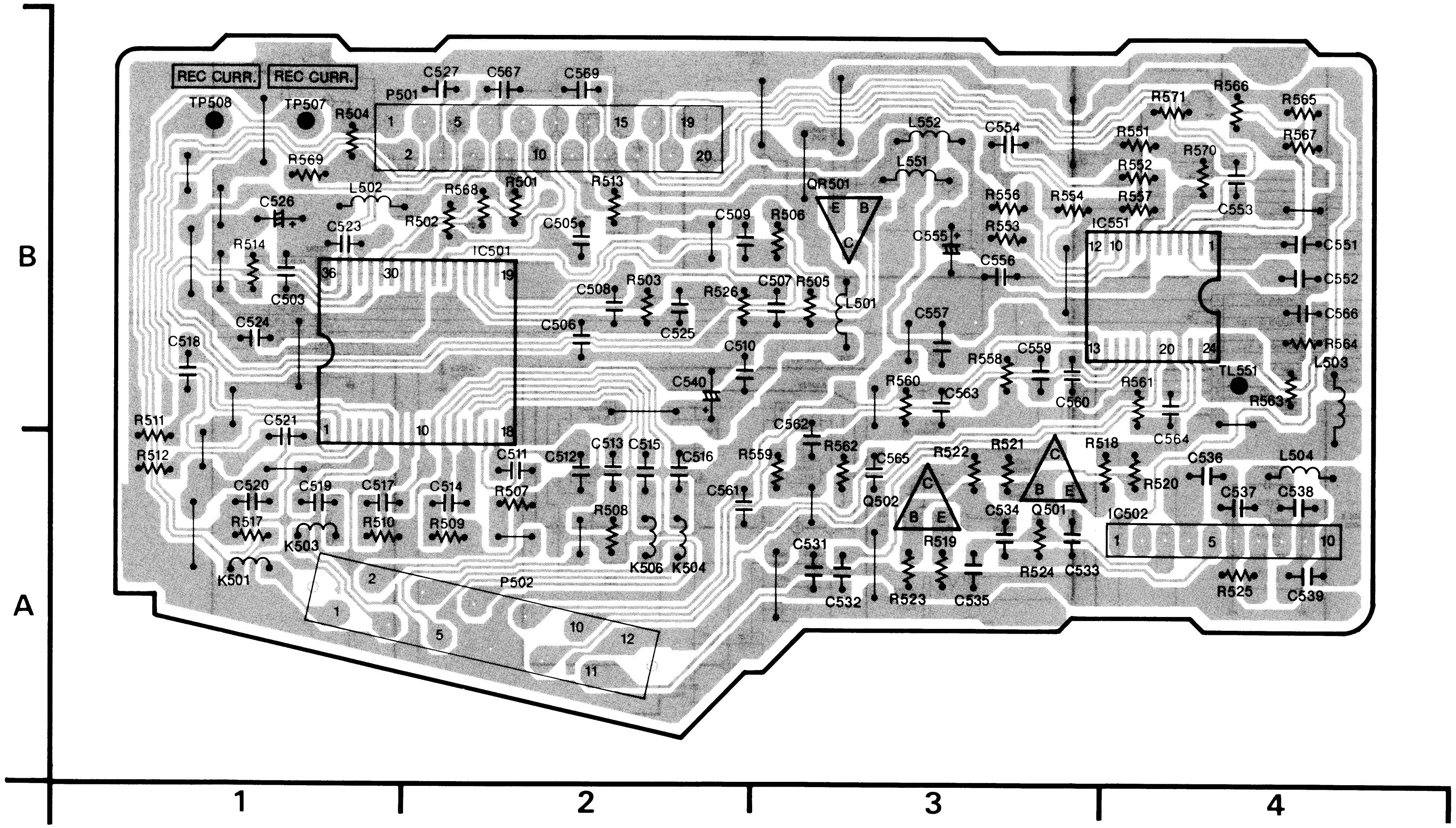
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL. (SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

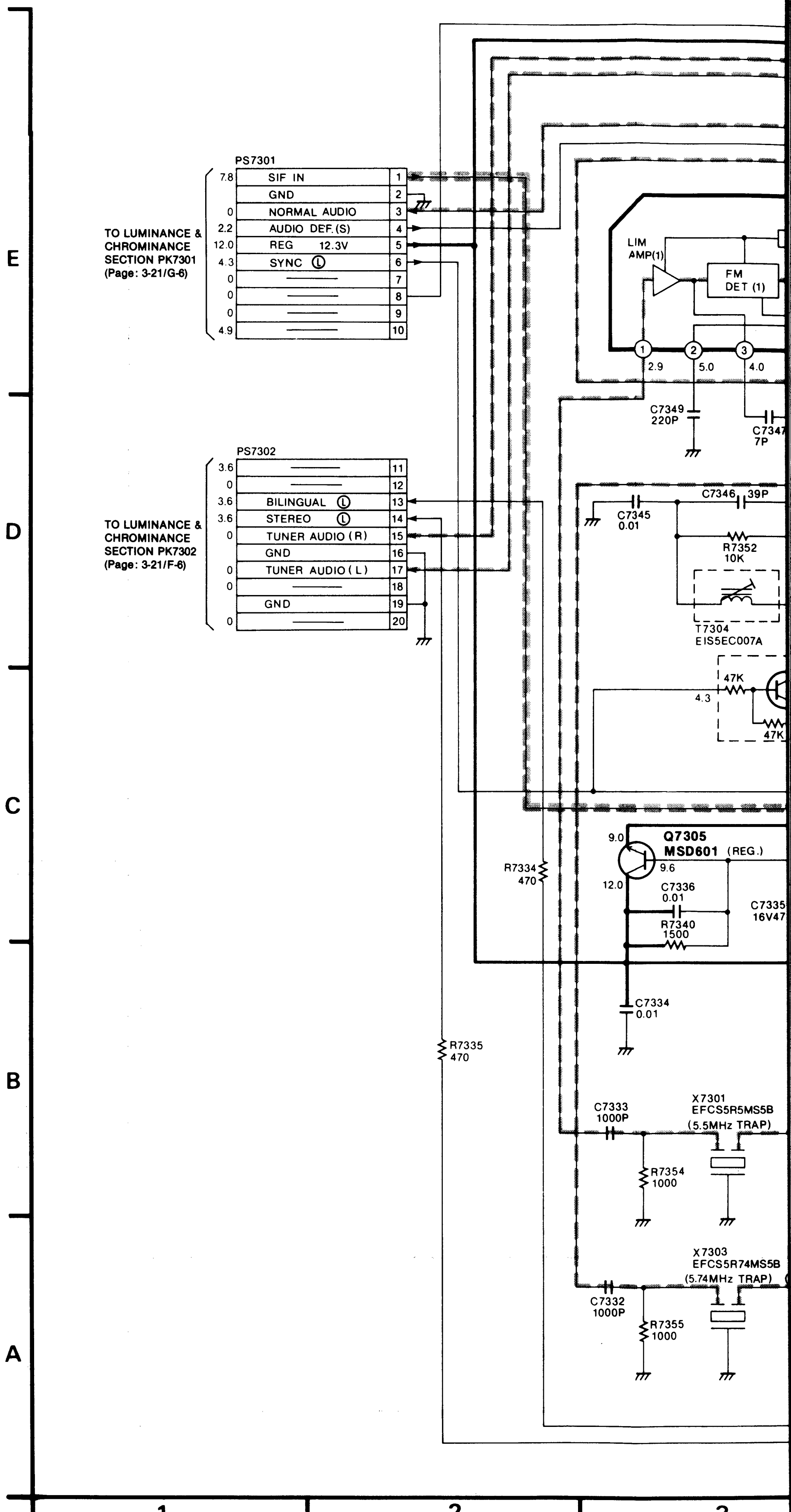
3-19. HEAD AMP C.B.A. (VEP05176G)

HEAD AMP C.B.A.	
Transistor	
Q501 Q502	A-3 A-3
Transistor & Resistor	
QR501	B-3
Integrated Circuit	
IC501 IC502 IC551	B-1 A-4 B-4
Test Point	
TL551 TP507 TP508	B-4 B-1 B-1
Connector	
P501 P502	B-2 A-1

ADDRESS INFORMATION


REC CURR.
REC CURR.
TP508
TP507
P501
C527
C567
C569
R504
R569
C526
L502
R568
R501
R513
QR501
C509
R506
L552
L551
C554
R571
R566
R565
R551
R570
R567
R552
R556
R554
R557
C553
C523
R502
C505
C555
R553
IC551
C551
R514
IC501
C503
C508
R503
C507
R505
R526
C556
C552
C524
C506
C525
L501
C557
C566
C518
C510
R564
C540
R560
R558
C559
C560
TL551
L503
R561
R563
C563
R511
C521
C562
R512
C511
C512
C513
C515
C516
R559
R562
C565
R522
R521
R518
C564
C536
L504
C520
C519
C517
C514
R507
C561
Q502
Q501
R520
C537
C538
R517
R510
R509
R508
C534
IC502
K503
K506
K504
R519
C531
R524
C533
K501
P502
C532
R523
C535
R525
C539
A
B
1
2
3
4

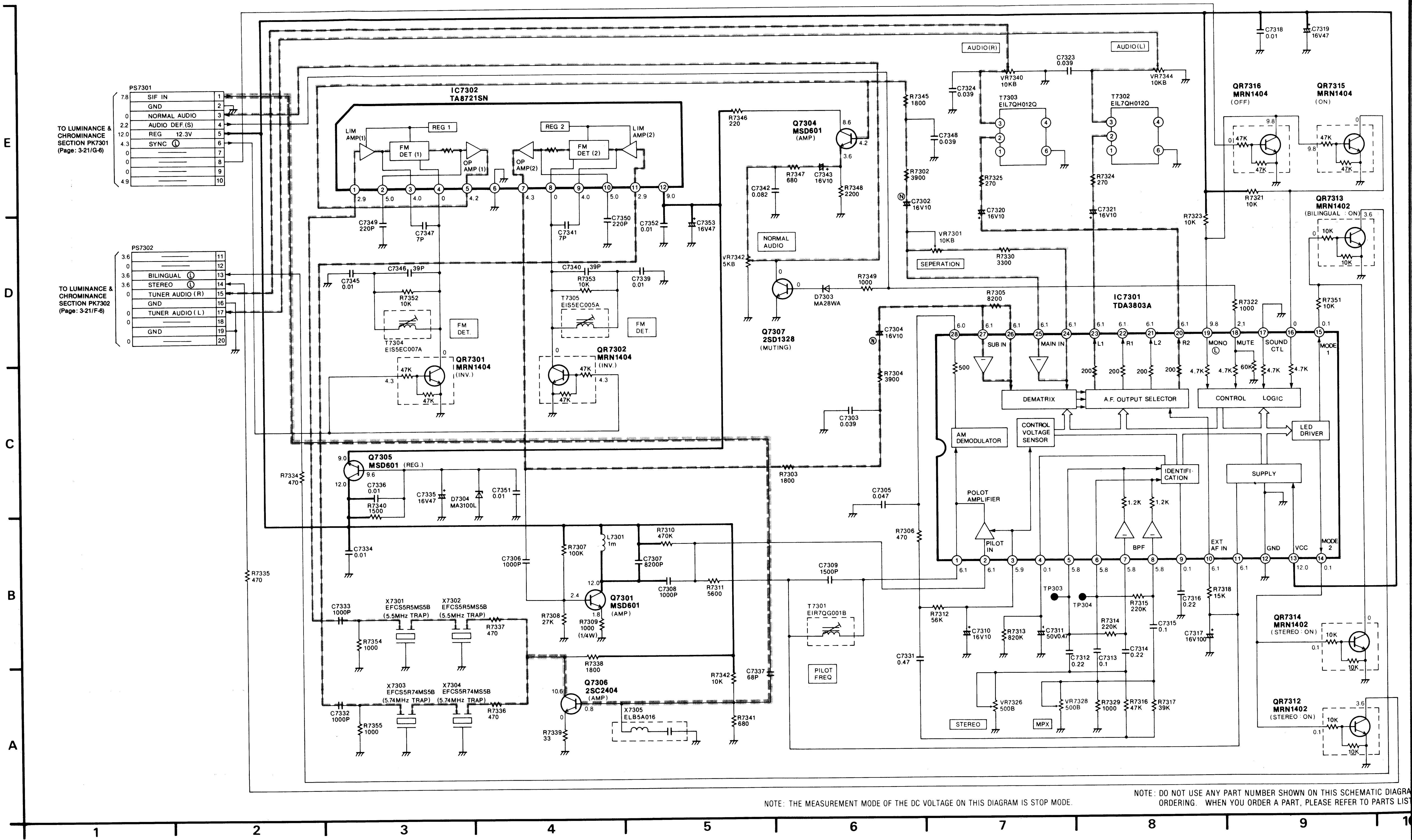
3-20. DECODER PACK SCHEMATIC DIAGRAM


E
D
C
B
A
1
2
3
PS7301
SIF IN
GND
NORMAL AUDIO
AUDIO DEF.(S)
REG 12.3V
SYNC Ⓛ
TO LUMINANCE & CHROMINANCE SECTION PK7301 (Page: 3-21/G-6)
7.8
0
2.2
12.0
4.3
4.9
LIM AMP(1)
FM DET (1)
2.9
5.0
4.0
C7349 220P
C7347 7P
PS7302
BILINGUAL Ⓛ
STEREO Ⓛ
TUNER AUDIO (R)
GND
TUNER AUDIO (L)
TO LUMINANCE & CHROMINANCE SECTION PK7302 (Page: 3-21/F-6)
3.6
C7345 0.01
C7346 39P
R7352 10K
T7304 EIS5EC007A
47K
4.3
Q7305 MSD601 (REG.)
9.0
9.6
12.0
R7334 470
C7336 0.01
R7340 1500
C7335 16V47
C7334 0.01
R7335 470
C7333 1000P
X7301 EFCS5R5MS5B (5.5MHz TRAP)
R7354 1000
X7303 EFCS5R74MS5B (5.74MHz TRAP)
C7332 1000P
R7355 1000

3-20. DECODER PACK SCHEMATIC DIAGRAM

AUDIO MAIN SIGNAL PATH

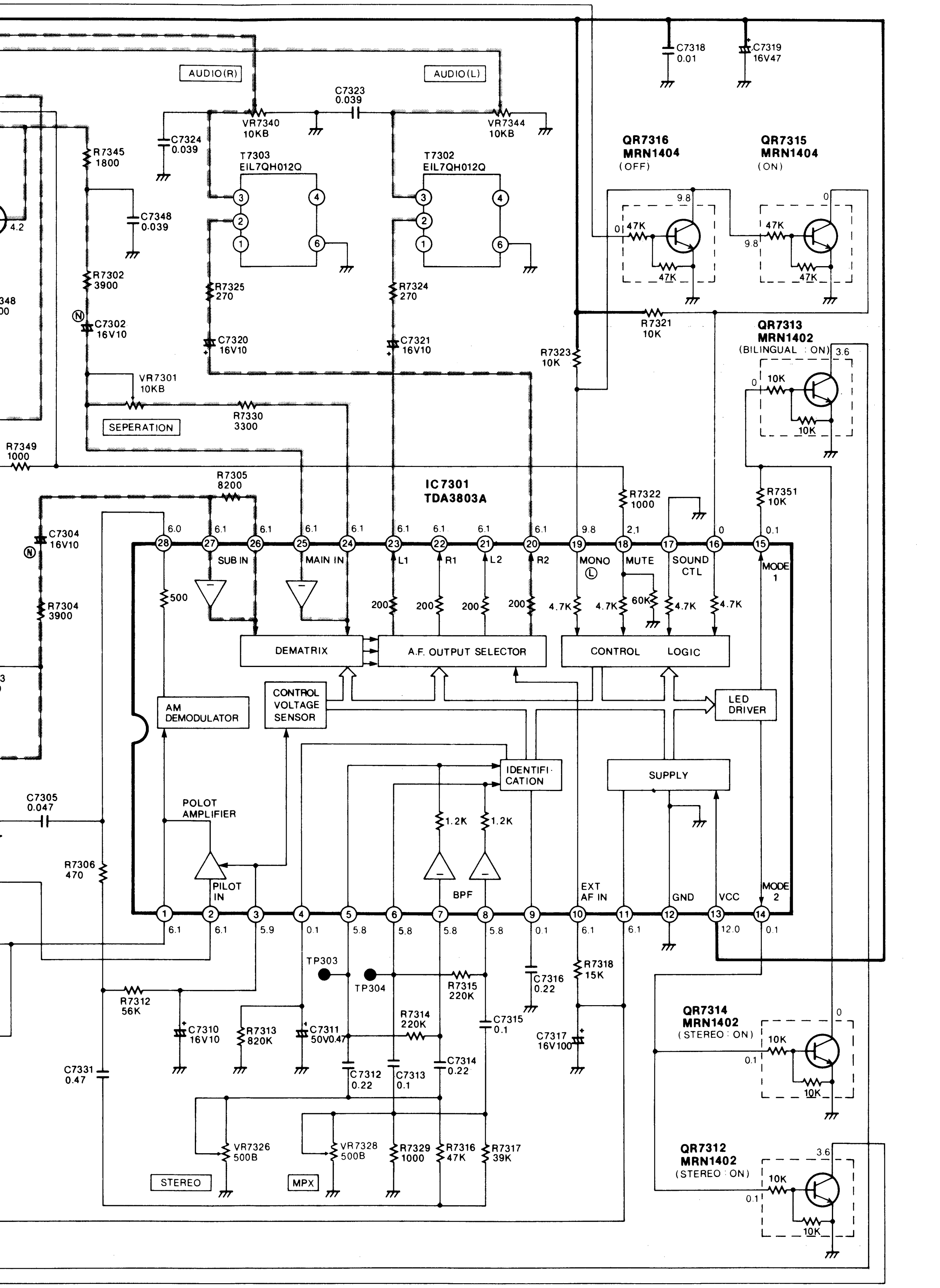
AUDIO SUB SIGNAL PATH


PS7301
SIF IN
GND
NORMAL AUDIO
AUDIO DEF.(S)
REG 12.3V
SYNC Ⓛ
TO LUMINANCE & CHROMINANCE SECTION PK7301 (Page: 3-21/G-6)
PS7302
BILINGUAL Ⓛ
STEREO Ⓛ
TUNER AUDIO (R)
GND
TUNER AUDIO (L)
GND
TO LUMINANCE & CHROMINANCE SECTION PK7302 (Page: 3-21/F-6)
IC7302
TA8721SN
LIM AMP(1)
FM DET (1)
REG 1
OP AMP (1)
OP AMP(2)
REG 2
FM DET (2)
LIM AMP(2)
T7304
EIS5EC007A
T7305
EIS5EC005A
FM DET.
QR7301
MRN1404
(INV.)
QR7302
MRN1404
(INV.)
Q7305
MSD601 (REG.)
D7304
MA3100L
Q7301
MSD601
(AMP)
Q7306
2SC2404
(AMP)
L7301
1m
X7301
EFCS5R5MS5B
(5.5MHz TRAP)
X7302
EFCS5R5MS5B
(5.5MHz TRAP)
X7303
EFCS5R74MS5B
(5.74MHz TRAP)
X7304
EFCS5R74MS5B
(5.74MHz TRAP)
X7305
ELB5A016
Q7304
MSD601
(AMP)
NORMAL AUDIO
Q7307
2SD1328
(MUTING)
D7303
MA28WA
T7301
EIR7QG001B
PILOT FREQ
AUDIO(R)
AUDIO(L)
VR7340 10KB
VR7344 10KB
T7303
EIL7QH012Q
T7302
EIL7QH012Q
VR7301 10KB
SEPERATION
VR7342 5KB
IC7301
TDA3803A
SUB IN
MAIN IN
L1
R1
L2
R2
MONO Ⓛ
MUTE
SOUND CTL
MODE 1
DEMATRIX
A.F. OUTPUT SELECTOR
CONTROL LOGIC
CONTROL VOLTAGE SENSOR
AM DEMODULATOR
LED DRIVER
IDENTIFI CATION
SUPPLY
POLOT AMPLIFIER
PILOT IN
BPF
EXT AF IN
GND
VCC
MODE 2
TP303
TP304
VR7326 500B
VR7328 500B
STEREO
MPX
QR7316
MRN1404
(OFF)
QR7315
MRN1404
(ON)
QR7313
MRN1402
(BILINGUAL : ON)
QR7314
MRN1402
(STEREO : ON)
QR7312
MRN1402
(STEREO : ON)
E
D
C
B
A
1
2
3
4
5
6
7
8
9

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRA ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIS

—— AUDIO MAIN SIGNAL PATH — — — AUDIO SUB SIGNAL PATH


AUDIO(R)
AUDIO(L)
C7318 0.01
C7319 16V47
C7323 0.039
VR7340 10KB
VR7344 10KB
C7324 0.039
R7345 1800
T7303 EIL7QH012Q
T7302 EIL7QH012Q
QR7316 MRN1404 (OFF)
QR7315 MRN1404 (ON)
C7348 0.039
R7302 3900
C7302 16V10
R7325 270
R7324 270
C7320 16V10
C7321 16V10
R7321 10K
R7323 10K
QR7313 MRN1402 (BILINGUAL : ON)
VR7301 10KB
SEPERATION
R7330 3300
R7349 1000
R7305 8200
IC7301 TDA3803A
R7322 1000
R7351 10K
C7304 16V10
R7304 3900
SUB IN
MAIN IN
L1
R1
L2
R2
MONO Ⓛ
MUTE
SOUND CTL
MODE 1
DEMATRIX
A.F. OUTPUT SELECTOR
CONTROL LOGIC
AM DEMODULATOR
CONTROL VOLTAGE SENSOR
LED DRIVER
IDENTIFI-CATION
SUPPLY
POLOT AMPLIFIER
PILOT IN
BPF
EXT AF IN
GND
VCC
MODE 2
C7305 0.047
R7306 470
TP303
TP304
R7312 56K
C7310 16V10
R7313 820K
C7311 50V0.47
R7315 220K
R7314 220K
C7315 0.1
C7316 0.22
R7318 15K
C7317 16V100
C7312 0.22
C7313 0.1
C7314 0.22
C7331 0.47
VR7326 500B
VR7328 500B
R7329 1000
R7316 47K
R7317 39K
STEREO
MPX
QR7314 MRN1402 (STEREO : ON)
QR7312 MRN1402 (STEREO : ON)
7
8
9
10

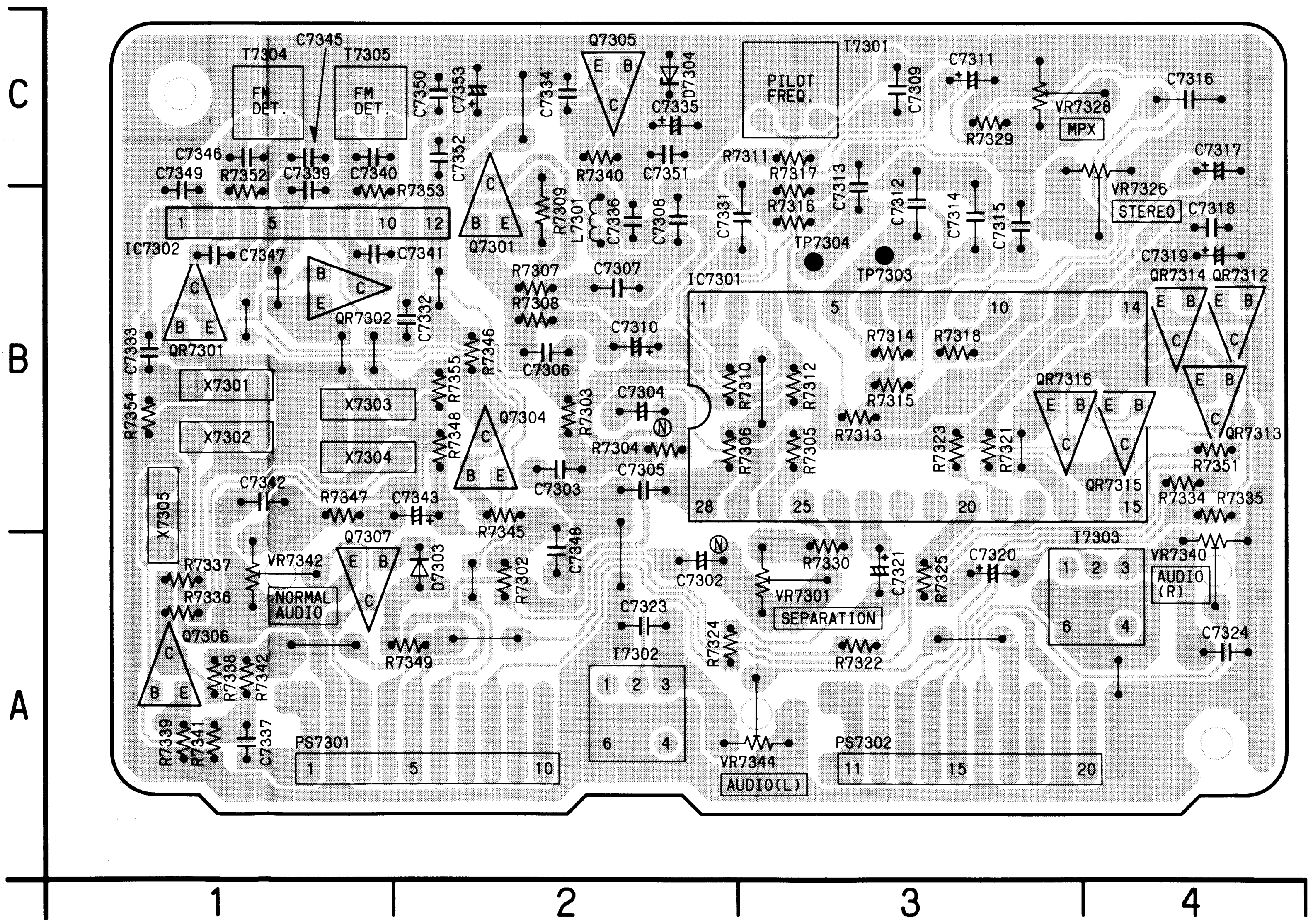
MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

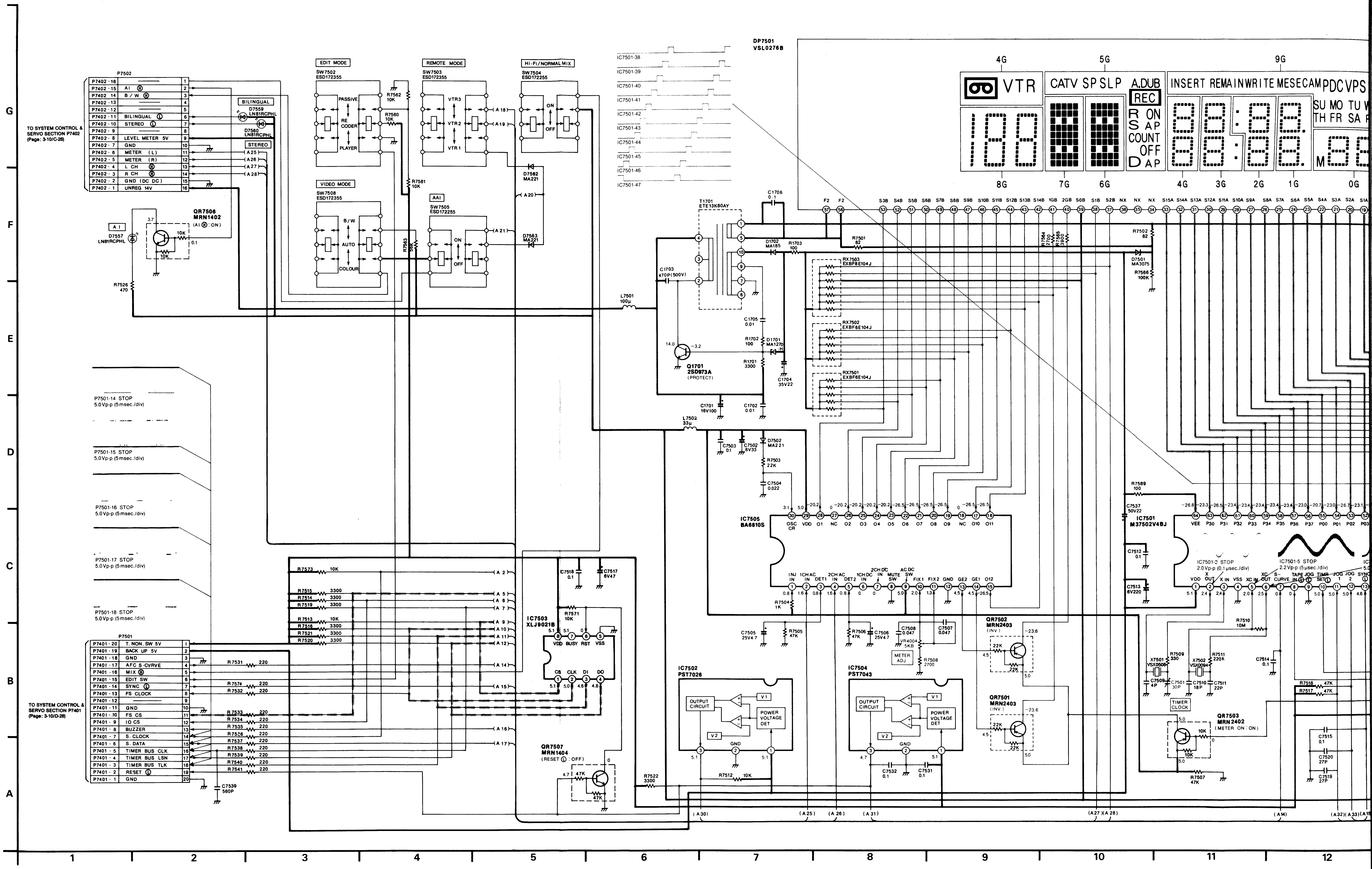
3-21. DECODER PACK C.B.A. (VEP07671A)

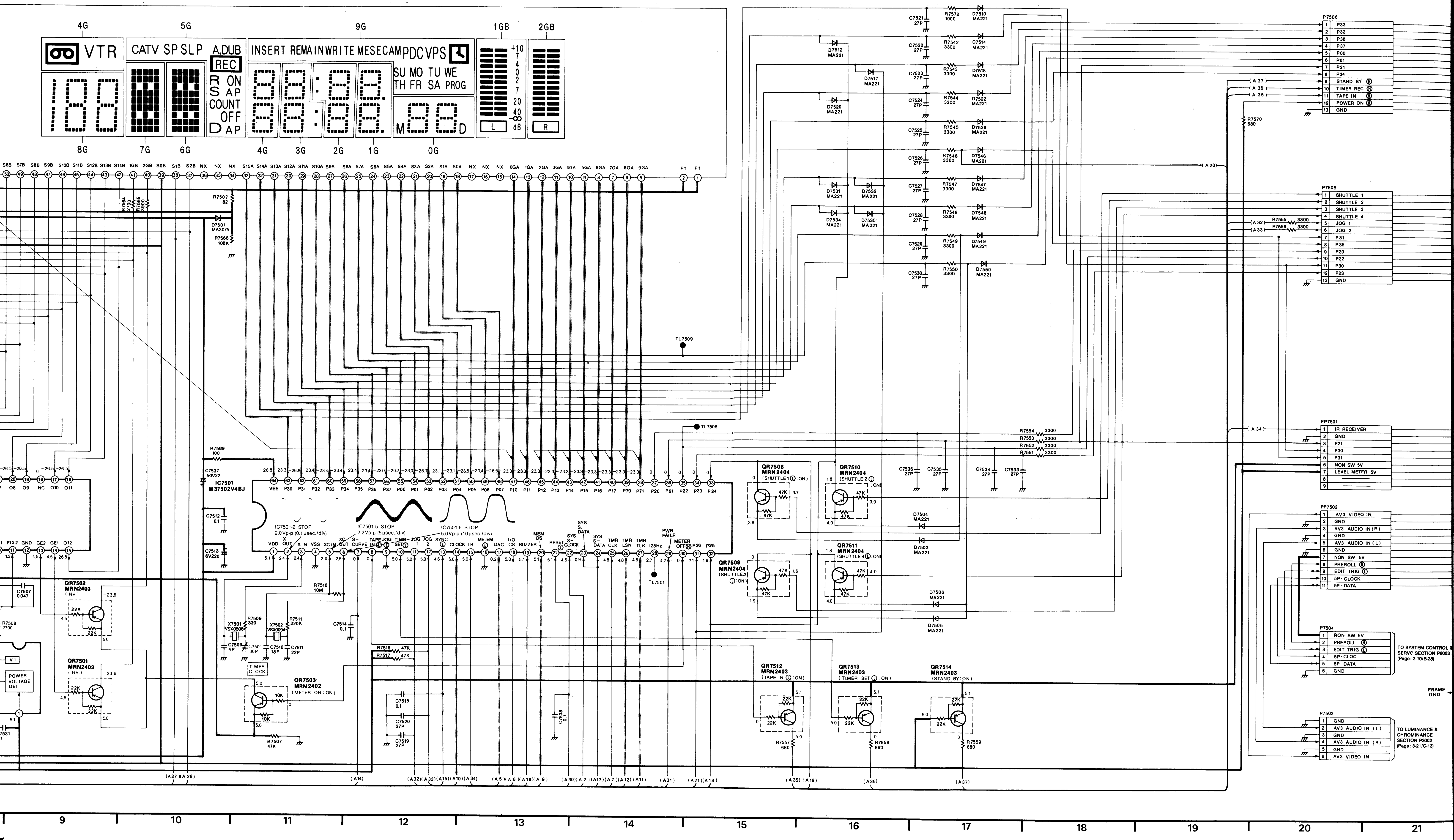
DECODER PACK C.B.A.			
Transistor		**Test Point**	
Q7301	B-2	TP7303	B-3
Q7304	B-2	TP7304	B-3
Q7305	C-2	**Adjustment**	
Q7306	A-1	T7301	C-3
Q7307	A-1	T7302	A-2
Transistor & Resistor		T7303	A-4
QR7301	B-1	T7304	C-1
QR7302	B-1	T7305	C-1
QR7312	B-4	VR7301	A-3
QR7313	B-4	VR7326	C-4
QR7314	B-4	VR7328	C-3
QR7315	B-4	VR7340	A-4
QR7316	B-3	VR7342	A-1
Integrated Circuit		VR7344	A-3
IC7301	B-3	**Connector**	
IC7302	B-1	PS7301	A-1
		PS7302	A-3

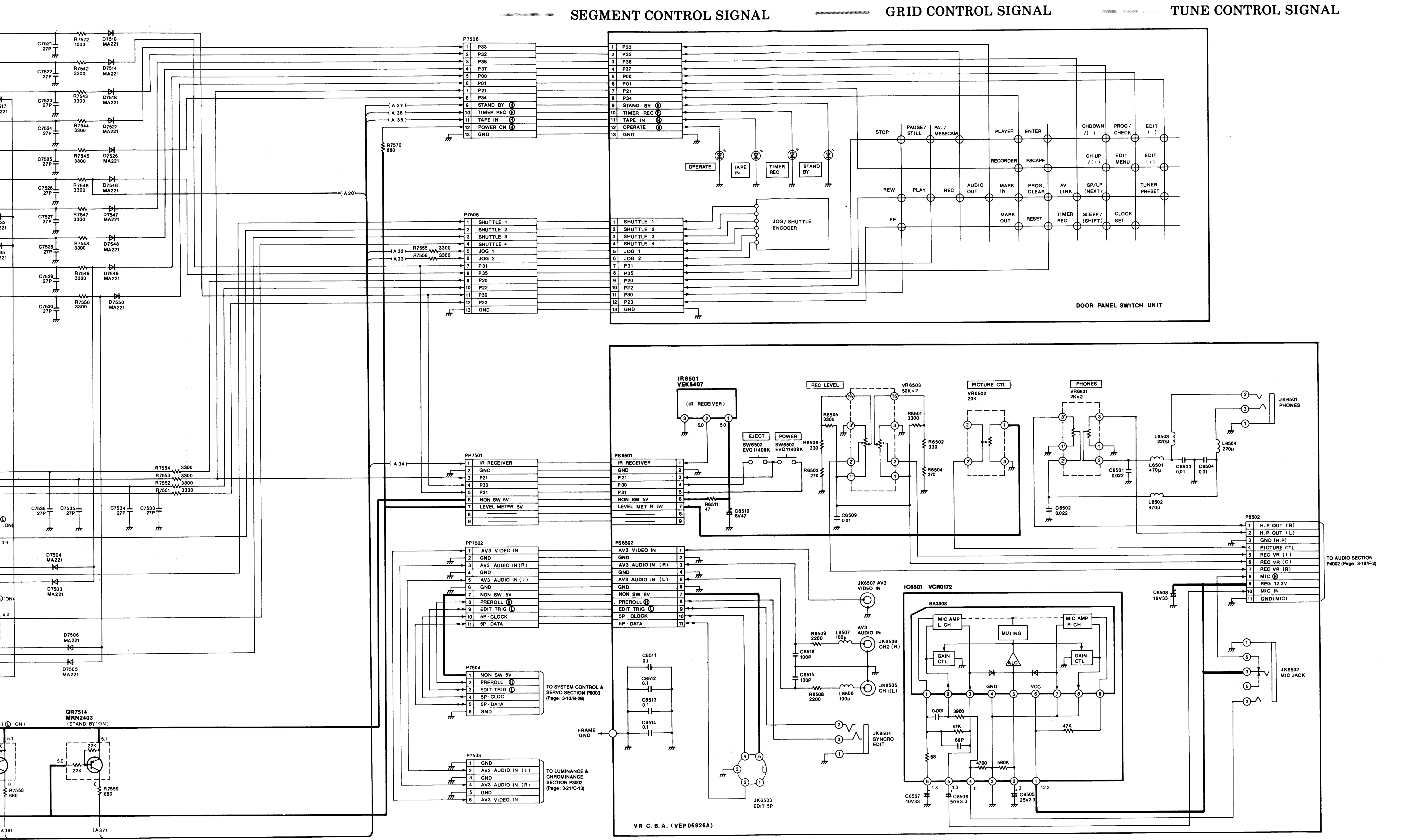
ADDRESS INFORMATION


C
B
A
1
2
3
4
T7304
C7345
T7305
FM DET.
Q7305
D7304
C7335
T7301
PILOT FREQ.
C7311
C7309
VR7328
MPX
R7329
C7316
C7317
C7346
C7349
R7352
C7339
C7340
R7353
R7340
C7351
R7311
R7317
R7316
R7326
STEREO
C7318
C7319
IC7302
C7347
C7341
Q7301
R7309
L7301
C7336
C7308
C7331
C7313
C7312
C7314
C7315
TP7304
TP7303
QR7314
QR7312
QR7302
C7332
R7307
R7308
C7307
IC7301
C7310
R7314
R7318
C7333
QR7301
X7301
X7302
X7303
X7304
X7305
R7354
R7355
R7346
C7306
R7348
Q7304
R7303
C7304
R7310
R7312
R7315
R7306
R7305
R7313
R7304
R7323
R7321
QR7316
QR7313
R7351
C7303
C7305
QR7315
R7334
R7335
C7342
R7347
C7343
R7345
C7348
Q7307
VR7342
NORMAL AUDIO
D7303
R7302
R7337
R7336
Q7306
R7338
R7342
R7349
C7323
C7302
R7330
VR7301
SEPARATION
C7321
R7325
C7320
T7303
VR7340
AUDIO (R)
C7324
R7324
T7302
R7322
R7339
R7341
C7337
PS7301
VR7344
AUDIO(L)
PS7302

3-22. TIMER & VR SCHEMATIC DIAGRAM


P7502
TO SYSTEM CONTROL & SERVO SECTION P7402 (Page: 3-10/C-28)
P7402-16
P7402-15 AI
P7402-14 B/W
P7402-13
P7402-12
P7402-11 BILINGUAL
P7402-10 STEREO
P7402-9
P7402-8 LEVEL METER 5V
P7402-7 GND
P7402-6 METER (L)
P7402-5 METER (R)
P7402-4 L CH
P7402-3 R CH
P7402-2 GND (DC DC)
P7402-1 UNREG 14V
EDIT MODE
SW7502 ESD172355
PASSIVE
RE CODER
PLAYER
REMOTE MODE
SW7503 ESD172355
VTR3
VTR2
VTR1
HI-FI/NORMAL MIX
SW7504 ESD172255
ON
OFF
BILINGUAL
D7559 LN81RCPHL
D7560 LN81RCPHL
STEREO
VIDEO MODE
SW7508 ESD172355
B/W
AUTO
COLOUR
AAI
SW7505 ESD172255
D7562 MA221
D7563 MA221
QR7506 MRN1402 (AI : ON)
AI
D7557 LN81RCPHL
R7526 470
DP7501 VSL0276B
VTR
CATV SP SLP
A.DUB
REC
INSERT REMAIN WRITE MESECAM PDC VPS
R ON
S AP
COUNT
OFF
D AP
SU MO TU
TH FR SA
T1701 ETE13K80AY
C1706 0.1
C1703 470P(500V)
D1702 MA185
R1703 100
R7501 82
R7502 82
D7501 MA3075
R7566 100K
RX7503 EXBF8E104J
RX7502 EXBF6E104J
RX7501 EXBF6E104J
L7501 100µ
Q1701 2SD973A (PROTECT)
D1701 MA1270
C1704 35V22
C1701 16V100
C1702 0.01
L7502 33µ
D7502 MA221
R7503 22K
C7504 0.022
IC7505 BA6810S
IC7501 M37502V4BJ
R7569 100
C7537 50V22
IC7501-2 STOP 2.0Vp-p (0.1µsec./div)
IC7501-5 STOP 2.2Vp-p (5µsec./div)
P7501-14 STOP 5.0Vp-p (5msec./div)
P7501-15 STOP 5.0Vp-p (5msec./div)
P7501-16 STOP 5.0Vp-p (5msec./div)
P7501-17 STOP 5.0Vp-p (5msec./div)
P7501-18 STOP 5.0Vp-p (5msec./div)
P7501
TO SYSTEM CONTROL & SERVO SECTION P7401 (Page: 3-10/D-28)
P7401-20 T. NON. SW 5V
P7401-19 BACK UP 5V
P7401-18 GND
P7401-17 AFC S-CVRVE
P7401-16 MIX
P7401-15 EDIT SW
P7401-14 SYNC
P7401-13 FS CLOCK
P7401-12
P7401-11 GND
P7401-10 FS CS
P7401-9 IO CS
P7401-8 BUZZER
P7401-7 S. CLOCK
P7401-6 S. DATA
P7401-5 TIMER BUS CLK
P7401-4 TIMER BUS LSN
P7401-3 TIMER BUS TLK
P7401-2 RESET
P7401-1 GND
IC7503 XLJ9021B
VDD BUSY RST VSS
CS CLK DI DO
QR7507 MRN1404 (RESET : OFF)
IC7502 PST7026
IC7504 PST7043
OUTPUT CIRCUIT
POWER VOLTAGE DET
METER ADJ
VR4004 5KB
QR7502 MRN2403 (INV)
QR7501 MRN2403 (INV)
QR7503 MRN 2402 (METER ON : ON)
X7501 VSX0506
X7502 VSX0094
TIMER CLOCK
1 2 3 4 5 6 7 8 9 10 11 12
G F E D C B A

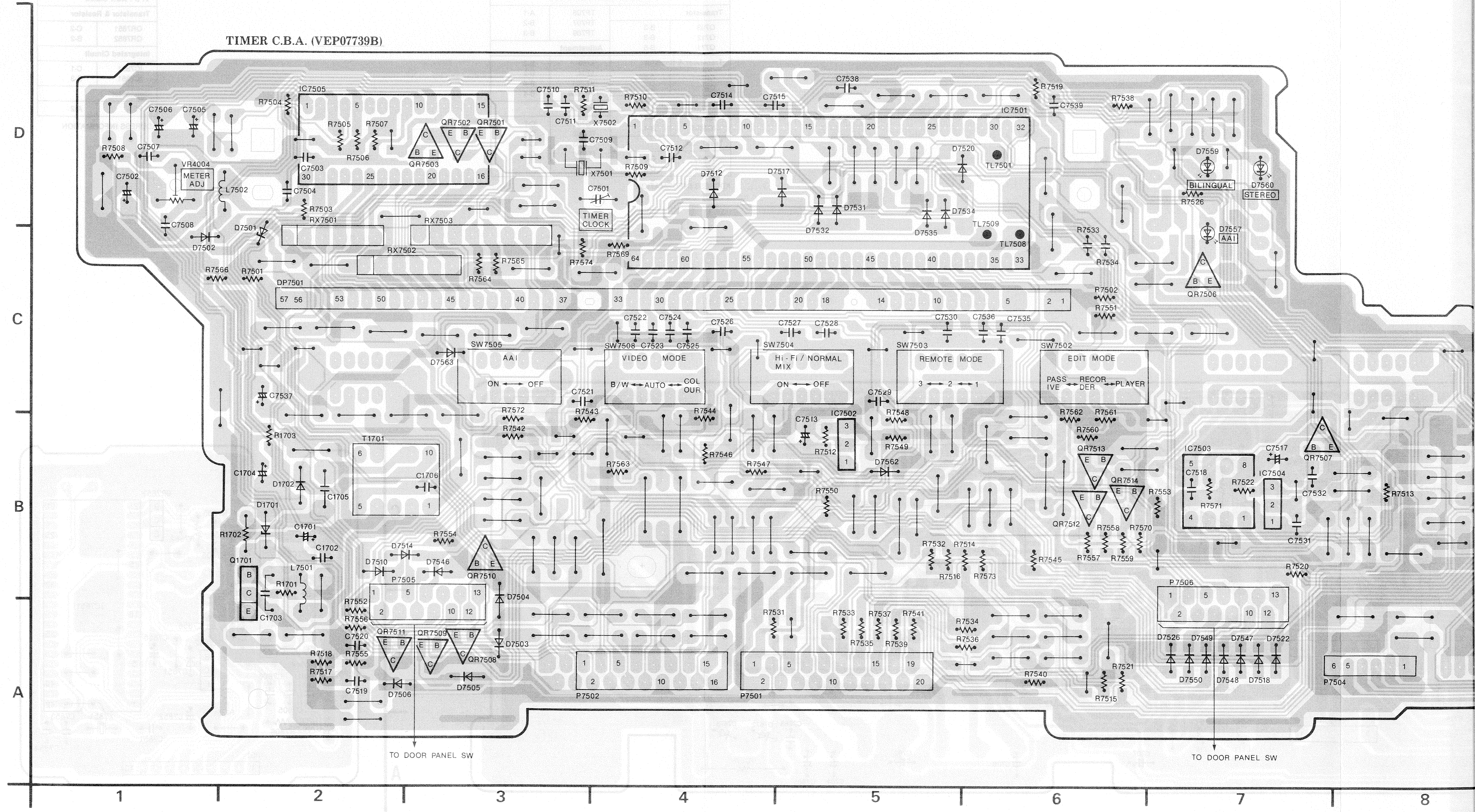

VTR
CATV SP SLP A.DUB
REC
R ON
S AP
COUNT
OFF
D AP
INSERT REMAINWRITE MESECAM PDC VPS
SU MO TU WE
TH FR SA PROG
M D
L
R
dB
4G
5G
9G
1GB
2GB
8G
7G
6G
4G
3G
2G
1G
0G
IC7501
M37502V4BJ
IC7501-2 STOP
2.0Vp-p (0.1μsec./div)
IC7501-5 STOP
2.2Vp-p (5μsec./div)
IC7501-6 STOP
5.0Vp-p (10μsec./div)
QR7501
MRN2403
(INV)
QR7502
MRN2403
(INV)
QR7503
MRN2402
(METER ON : ON)
QR7508
MRN2404
(SHUTTLE 1 Ⓛ : ON)
QR7509
MRN2404
(SHUTTLE 3 Ⓛ : ON)
QR7510
MRN2404
(SHUTTLE 2 Ⓛ : ON)
QR7511
MRN2404
(SHUTTLE 4 Ⓛ : ON)
QR7512
MRN2403
(TAPE IN Ⓛ : ON)
QR7513
MRN2403
(TIMER SET Ⓛ : ON)
QR7514
MRN2403
(STAND BY : ON)
POWER VOLTAGE DET
TIMER CLOCK
X7501 VSX0508
X7502 VSX0094
TL7501
TL7508
TL7509
P7506
P33
P32
P36
P37
P00
P01
P21
P34
STAND BY Ⓗ
TIMER REC Ⓗ
TAPE IN Ⓗ
POWER ON Ⓗ
GND
P7505
SHUTTLE 1
SHUTTLE 2
SHUTTLE 3
SHUTTLE 4
JOG 1
JOG 2
P31
P35
P20
P22
P30
P23
GND
PP7501
IR RECEIVER
GND
P21
P30
P31
NON SW 5V
LEVEL METER 5V
PP7502
AV3 VIDEO IN
GND
AV3 AUDIO IN (R)
GND
AV3 AUDIO IN (L)
GND
NON SW 5V
PREROLL Ⓗ
EDIT TRIG Ⓛ
5P · CLOCK
5P · DATA
P7504
NON SW 5V
PREROLL Ⓗ
EDIT TRIG Ⓛ
5P · CLOC
5P · DATA
GND
TO SYSTEM CONTROL & SERVO SECTION P6003 (Page: 3-10/B-28)
FRAME GND
P7503
GND
AV3 AUDIO IN (L)
GND
AV3 AUDIO IN (R)
GND
AV3 VIDEO IN
TO LUMINANCE & CHROMINANCE SECTION P3002 (Page: 3-21/C-13)
9
10
11
12
13
14
15
16
17
18
19
20
21

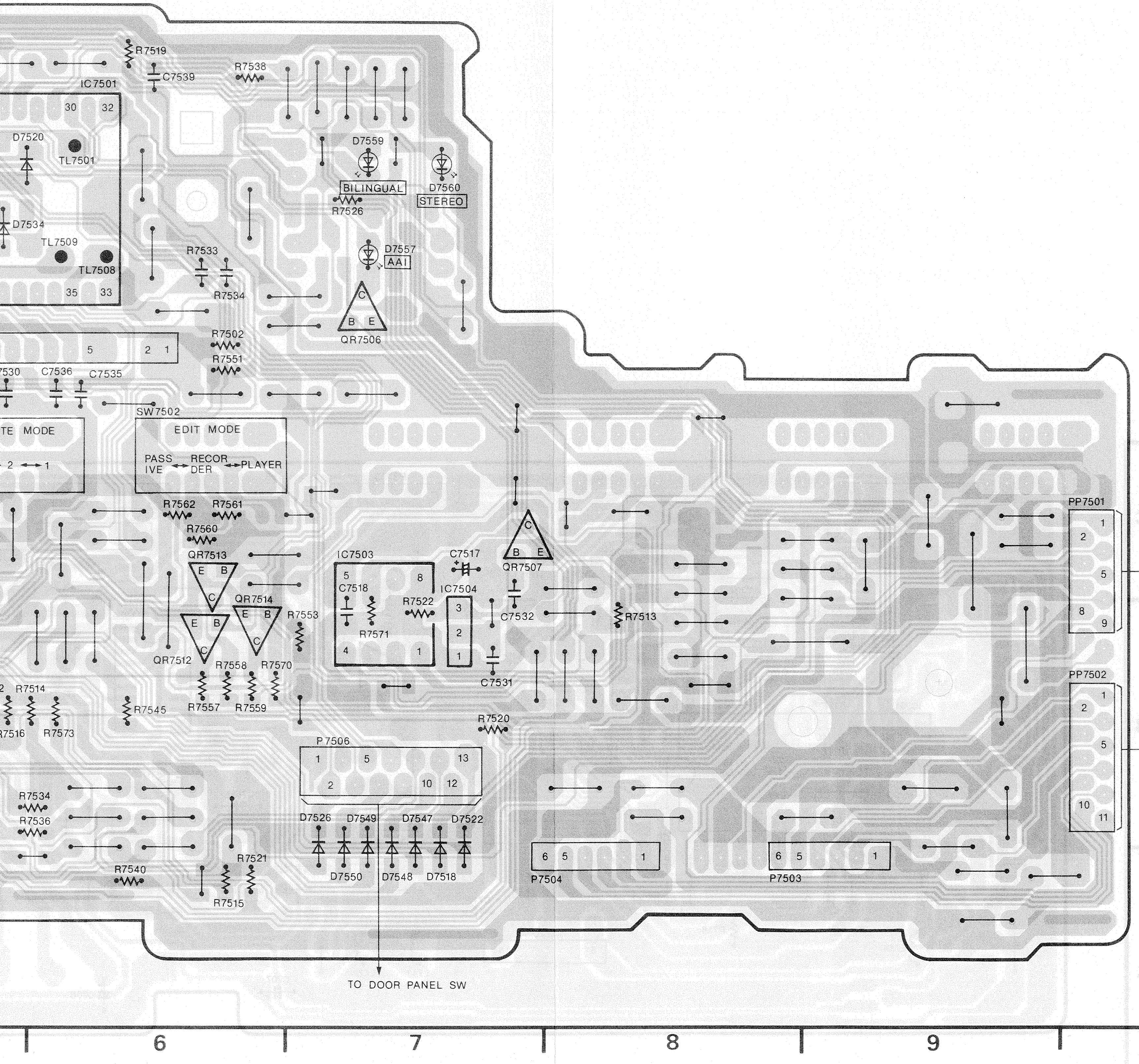

SEGMENT CONTROL SIGNAL
GRID CONTROL SIGNAL
TUNE CONTROL SIGNAL
P7506
P33
P32
P36
P37
P00
P01
P21
P34
STAND BY
TIMER REC
TAPE IN
POWER ON
GND
OPERATE
TAPE IN
TIMER REC
STAND BY
STOP
PAUSE/ STILL
PAL/ MESECAM
PLAYER
ENTER
CHDOWN /(−)
PROG/ CHECK
EDIT (−)
RECORDER
ESCAPE
CH UP /(+)
EDIT MENU
EDIT (+)
REW
PLAY
REC
AUDIO OUT
MARK IN
PROG. CLEAR
AV LINK
SP/LP (NEXT)
TUNER PRESET
FF
MARK OUT
RESET
TIMER REC
SLEEP/ (SHIFT)
CLOCK SET
P7505
SHUTTLE 1
SHUTTLE 2
SHUTTLE 3
SHUTTLE 4
JOG 1
JOG 2
P31
P35
P20
P22
P30
P23
JOG/ SHUTTLE ENCODER
DOOR PANEL SWITCH UNIT
R7570 680
R7555 3300
R7556 3300
PP7501
IR RECEIVER
NON SW 5V
LEVEL METER 5V
PS6501
IR6501 VEK6407
(IR RECEIVER)
EJECT
POWER
SW6502 EVQ11409K
REC LEVEL
VR6503 50K×2
PICTURE CTL
VR6502 20K
PHONES
VR6501 2K×2
JK6501 PHONES
L6503 220μ
L6504 220μ
L6501 470μ
L6502 470μ
P6502
H.P OUT (R)
H.P OUT (L)
GND (H.P)
PICTURE CTL
REC VR (L)
REC VR (C)
REC VR (R)
MIC
REG 12.3V
MIC IN
GND(MIC)
TO AUDIO SECTION P4002 (Page: 3-18/F-2)
PP7502
PS6502
AV3 VIDEO IN
AV3 AUDIO IN (R)
AV3 AUDIO IN (L)
PREROLL
EDIT TRIG
5P · CLOCK
5P · DATA
JK6507 AV3 VIDEO IN
AV3 AUDIO IN
JK6506 CH2 (R)
JK6505 CH1 (L)
IC6501 VCR0172
BA3308
MIC AMP L·CH
MIC AMP R·CH
MUTING
GAIN CTL
ALC
GND
VCC
JK6502 MIC JACK
P7504
TO SYSTEM CONTROL & SERVO SECTION P6003 (Page: 3-10/B-28)
P7503
TO LUMINANCE & CHROMINANCE SECTION P3002 (Page: 3-21/C-13)
FRAME GND
JK6504 SYNCRO EDIT
JK6503 EDIT 5P
QR7514 MRN2403
(STAND BY: ON)
VR C.B.A. (VEP06926A)
17
18
19
20
21
22
23
24
25
26
27
28

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE. (SP MODE)

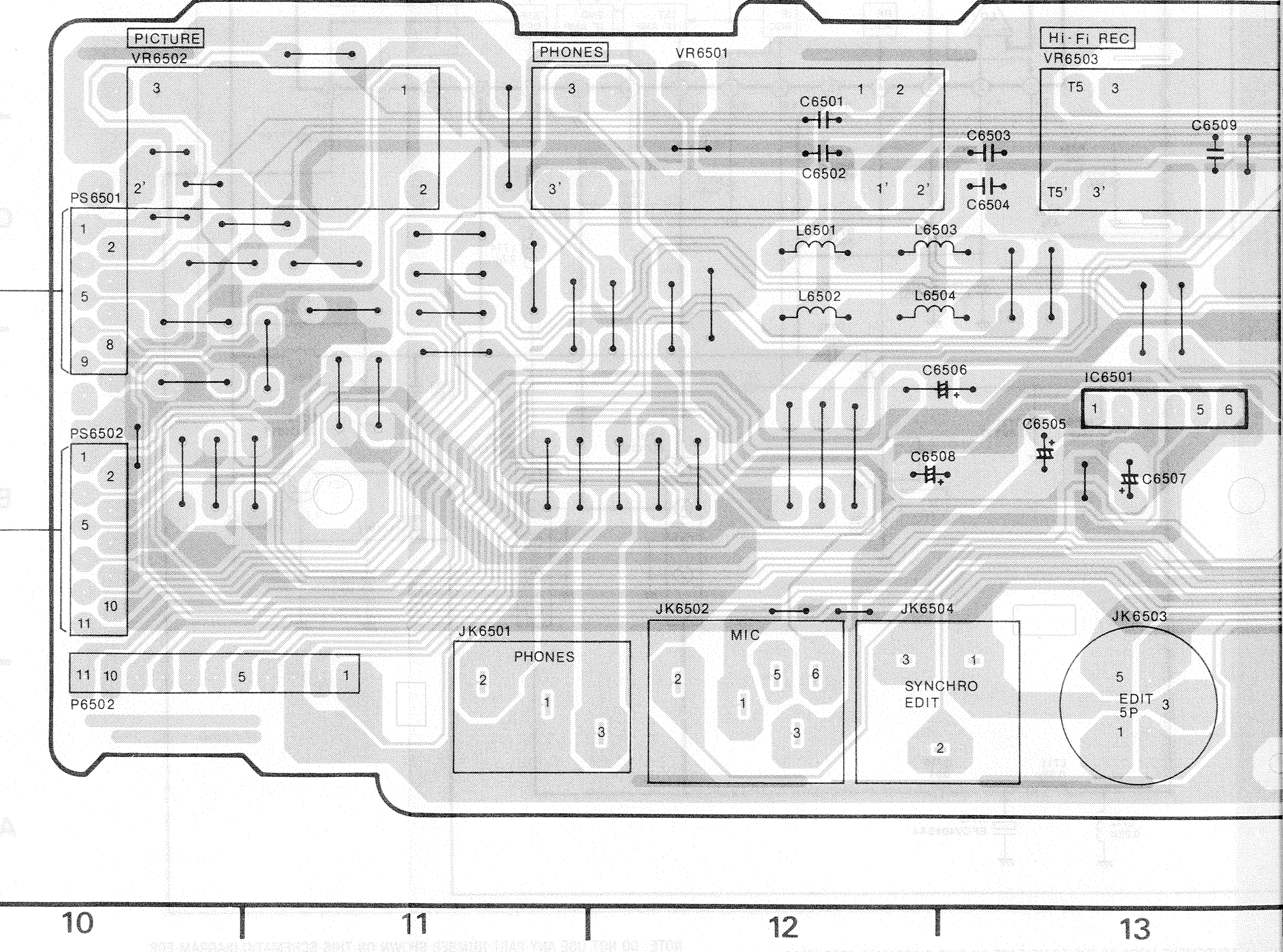
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-23. TIMER C.B.A. (VEP07739B) & VR C.B.A. (VEP06926A)

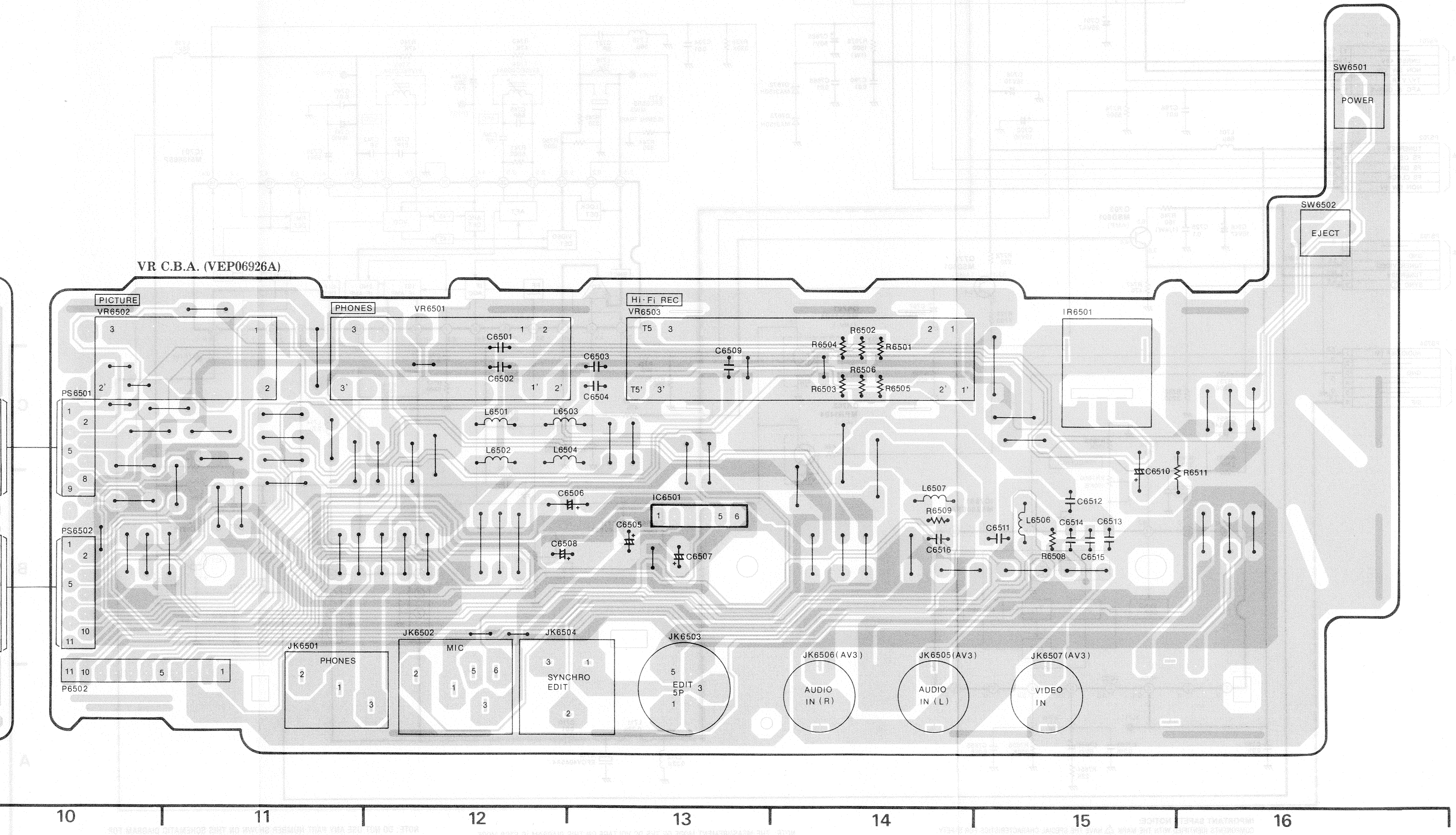

TIMER C.B.A. (VEP07739B)
D
C
B
A
1
2
3
4
5
6
7
8
IC7505
IC7501
IC7502
IC7503
IC7504
DP7501
RX7501
RX7502
RX7503
X7501
X7502
T1701
L1701
L7501
L7502
Q1701
QR7501
QR7502
QR7503
QR7506
QR7507
QR7508
QR7509
QR7510
QR7511
QR7512
QR7513
QR7514
VR4004
METER ADJ
TIMER CLOCK
TL7501
TL7508
TL7509
D7559
BILINGUAL
D7560
STEREO
D7557
AAI
SW7505
AAI
ON ⟷ OFF
SW7508
VIDEO MODE
B/W ⟷ AUTO ⟷ COLOUR
SW7504
Hi-Fi / NORMAL MIX
ON ⟷ OFF
SW7503
REMOTE MODE
3 ⟷ 2 ⟷ 1
SW7502
EDIT MODE
PASSIVE ⟷ RECORDER ⟷ PLAYER
P7501
P7502
P7504
P7505
P7506
TO DOOR PANEL SW
TO DOOR PANEL SW


R7519
C7539
R7538
IC7501
D7520
TL7501
D7534
TL7509
TL7508
D7559
BILINGUAL
R7526
D7560
STEREO
D7557
AAI
R7533
R7534
QR7506
R7502
R7551
C7536
C7535
SW7502
EDIT MODE
PASSIVE
RECORDER
PLAYER
R7562
R7561
R7560
QR7513
QR7514
QR7512
R7553
R7558
R7570
R7557
R7559
R7514
R7516
R7573
R7545
IC7503
C7518
R7522
R7571
IC7504
C7517
QR7507
C7532
C7531
R7513
R7520
P7506
D7526
D7549
D7547
D7522
D7550
D7548
D7518
R7534
R7536
R7540
R7521
R7515
P7504
P7503
PP7501
PP7502
TO DOOR PANEL SW
6
7
8
9

VR C.B.A. (VEP06926A)


PICTURE
VR6502
PHONES
VR6501
Hi-Fi REC
VR6503
C6501
C6502
C6503
C6504
C6509
PS6501
PS6502
L6501
L6503
L6502
L6504
C6506
IC6501
C6505
C6508
C6507
P6502
JK6501
PHONES
JK6502
MIC
JK6504
SYNCHRO EDIT
JK6503
EDIT 5P
10
11
12
13

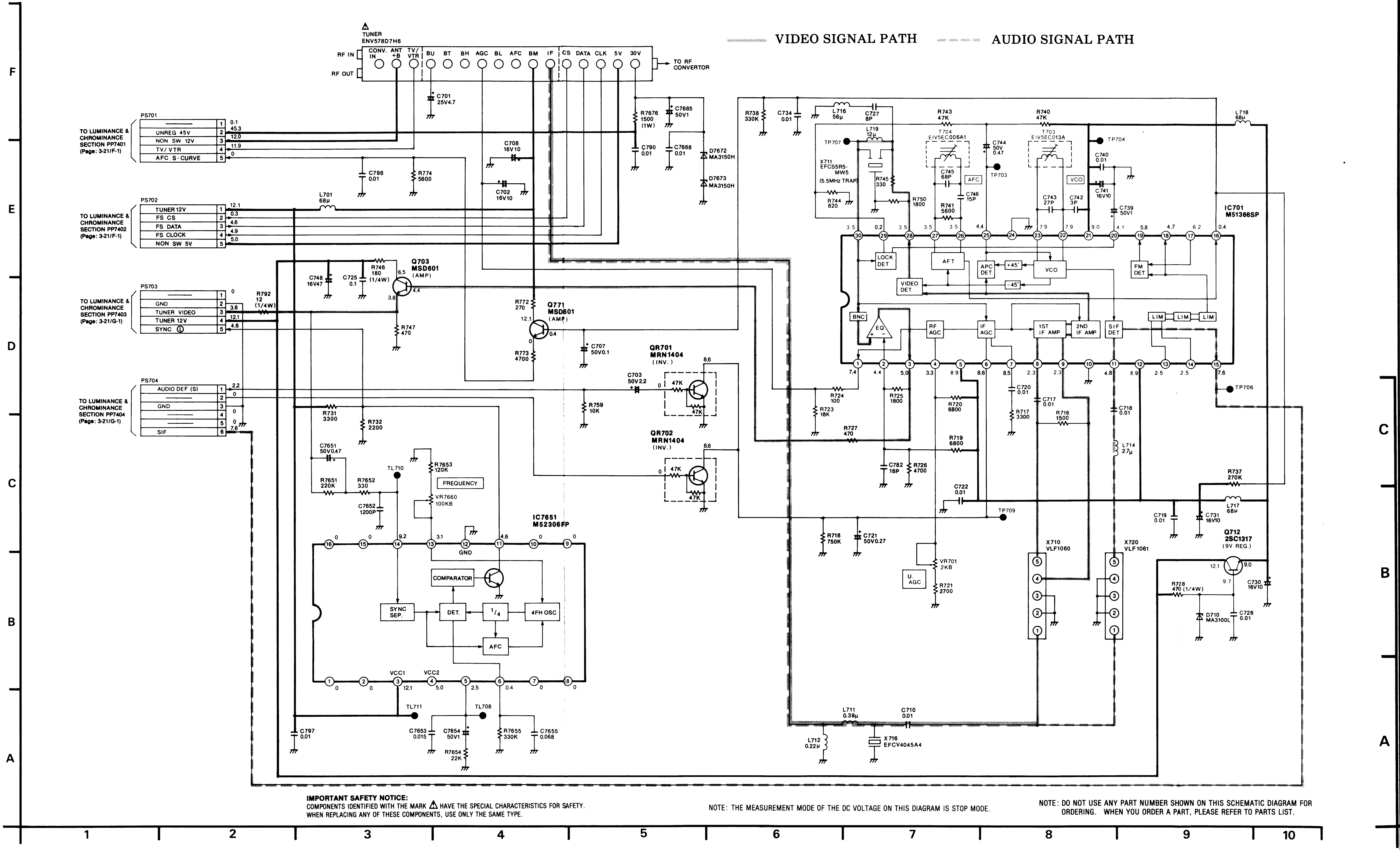
VR C.B.A. (VEP06926A)


PICTURE
VR6502
PHONES
VR6501
Hi-Fi REC
VR6503
T5
T5'
C6501
C6502
C6503
C6504
C6509
R6502
R6504
R6501
R6506
R6503
R6505
PS6501
PS6502
L6501
L6502
L6503
L6504
C6506
IC6501
C6505
C6508
C6507
L6507
R6509
C6516
C6511
L6506
C6514
C6513
C6512
R6508
C6515
C6510
R6511
IR6501
SW6501
POWER
SW6502
EJECT
P6502
JK6501
PHONES
JK6502
MIC
JK6504
SYNCHRO
EDIT
JK6503
EDIT
5P
JK6506(AV3)
AUDIO
IN (R)
JK6505(AV3)
AUDIO
IN (L)
JK6507(AV3)
VIDEO
IN
10
11
12
13
14
15
16

TIMER C.B.A. & VR C.B.A.	
Transistor	
Q1701	B-2
Transistor & Resistor	
QR7501	D-3
QR7502	D-3
QR7503	D-3
QR7506	C-7
QR7507	B-7
QR7508	A-3
QR7509	A-3
QR7510	B-3
QR7511	A-2
QR7512	B-6
QR7513	B-6
QR7514	B-6
Integrated Circuit	
IC6501	B-13
IC7501	D-6
IC7502	B-5
IC7503	B-7
IC7504	B-7
IC7505	D-2
Adjustment	
C7501	D-4
VR4004	D-1
VR6501	C-12
VR6502	C-10
VR6503	C-13
Connector	
P6502	A-10
P7501	A-4
P7502	A-4
P7503	A-8
P7504	A-8
P7505	B-2
P7506	B-7
PP7501	B-10
PP7502	B-10
PS6501	B-10
PS6502	B-10

ADDRESS INFORMATION

3-24. TV DEMODULATOR PACK SCHEMATIC DIAGRAM


VIDEO SIGNAL PATH
AUDIO SIGNAL PATH
TUNER
ENV578D7H6
RF IN
RF OUT
CONV. IN
ANT +B
TV/VTR
BU
BT
BH
AGC
BL
AFC
BM
IF
CS
DATA
CLK
5V
30V
TO RF CONVERTOR
PS701
TO LUMINANCE & CHROMINANCE SECTION PP7401 (Page: 3-21/F-1)
UNREG 45V
NON SW 12V
TV/VTR
AFC S-CURVE
PS702
TO LUMINANCE & CHROMINANCE SECTION PP7402 (Page: 3-21/F-1)
TUNER 12V
FS CS
FS DATA
FS CLOCK
NON SW 5V
PS703
TO LUMINANCE & CHROMINANCE SECTION PP7403 (Page: 3-21/G-1)
GND
TUNER VIDEO
TUNER 12V
SYNC
PS704
TO LUMINANCE & CHROMINANCE SECTION PP7404 (Page: 3-21/G-1)
AUDIO DEF (S)
GND
SIF
Q703
MSD601
(AMP)
Q771
MSD601
(AMP)
QR701
MRN1404
(INV.)
QR702
MRN1404
(INV.)
IC7651
M52306FP
COMPARATOR
SYNC SEP.
DET.
1/4
4FH OSC
AFC
FREQUENCY
VCC1
VCC2
GND
TL710
TL711
TL708
IC701
M51366SP
LOCK DET
AFT
APC DET
+45°
-45°
VCO
FM DET
VIDEO DET
BNC
EQ
RF AGC
IF AGC
1ST IF AMP
2ND IF AMP
SIF DET
LIM
U. AGC
X711
EFCS5R5-MW5
(5.5MHz TRAP)
T704
EIV5EC006A1
T703
EIV5EC013A
X710
VLF1060
X720
VLF1061
X716
EFCV4045A4
Q712
2SC1317
(9V REG.)
D710
MA3100L
D7672
MA3150H
D7673
MA3150H
TP703
TP704
TP706
TP707
TP709
VR701 2KB
VR7660 100KB
L701 68μ
L711 0.39μ
L712 0.22μ
L714 2.7μ
L716 56μ
L717 68μ
L718 68μ
L719 12μ
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10

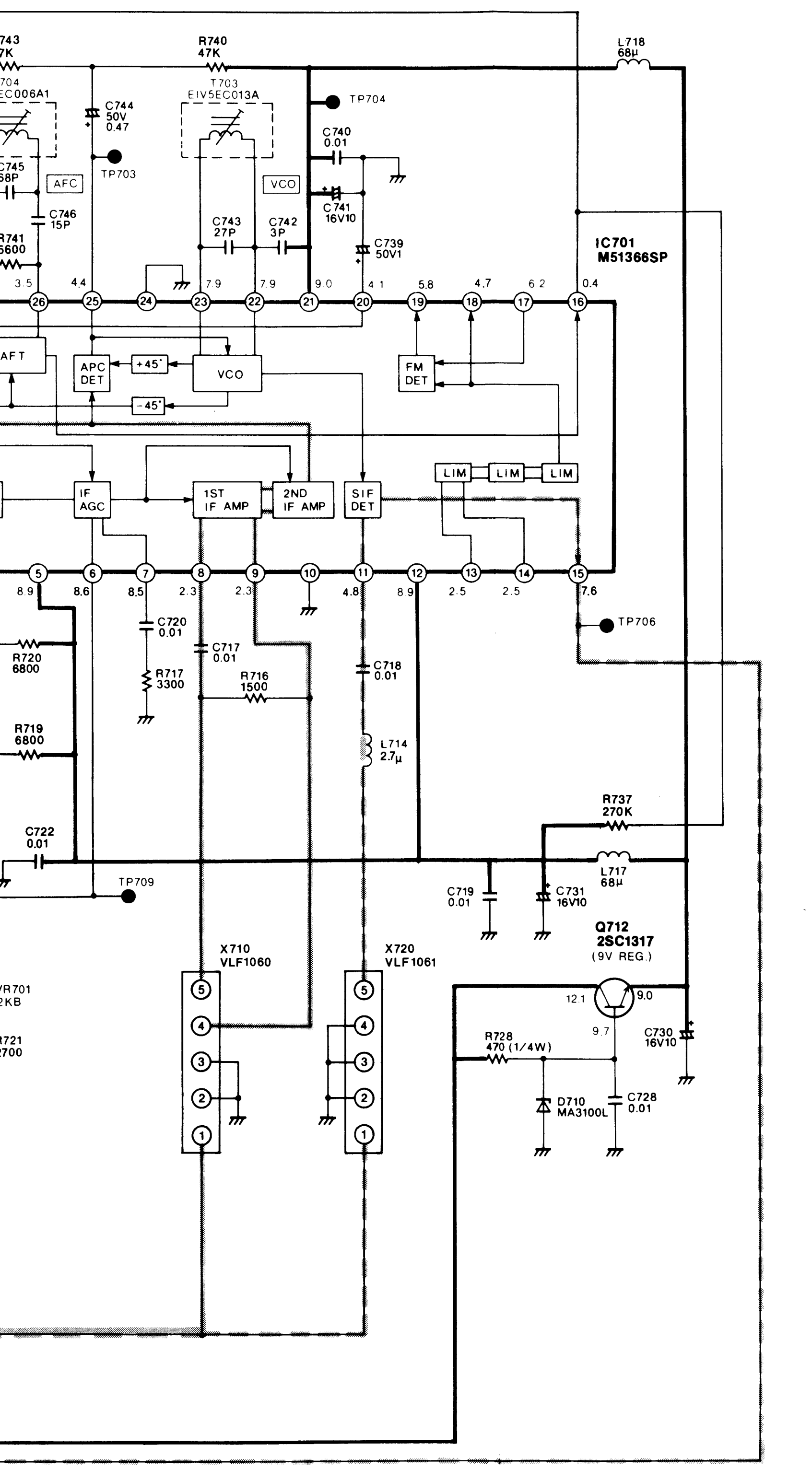
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

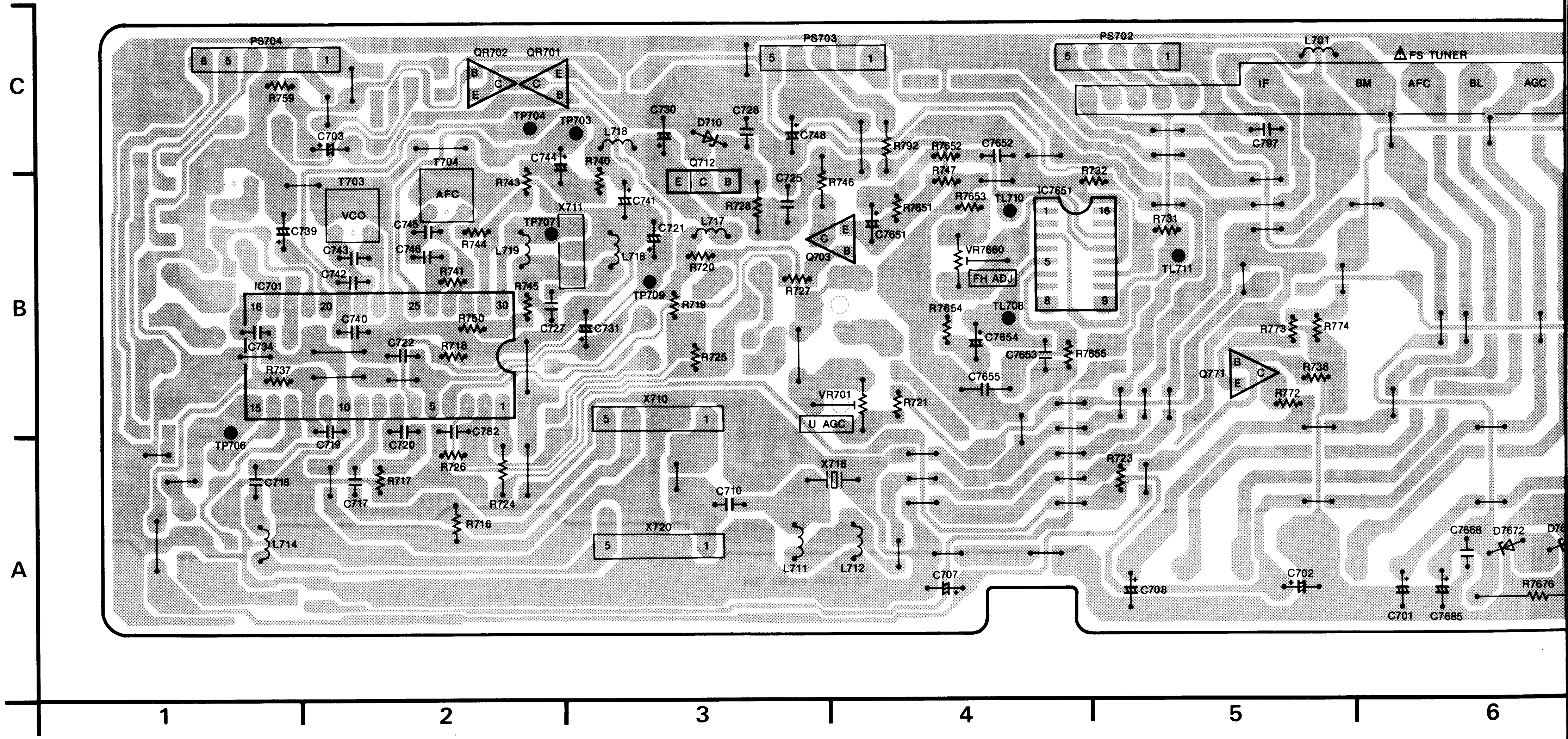
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-25. TV DEMODULATOR PACK C.B.A. (VEP07749A)

AUDIO SIGNAL PATH


R740
47K
T703
EIV5EC013A
C744
50V
0.47
TP703
TP704
C740
0.01
C741
16V10
C739
50V1
AFC
VCO
C745
68P
C746
15P
R741
5600
C743
27P
C742
3P
L718
68μ
IC701
M51366SP
AFT
APC DET
+45°
-45°
VCO
FM DET
IF AGC
1ST IF AMP
2ND IF AMP
SIF DET
LIM
LIM
LIM
TP706
R720
6800
C720
0.01
R717
3300
C717
0.01
R716
1500
C718
0.01
L714
2.7μ
R719
6800
C722
0.01
TP709
R737
270K
L717
68μ
C719
0.01
C731
16V10
Q712
2SC1317
(9V REG.)
X710
VLF1060
X720
VLF1061
R728
470 (1/4W)
D710
MA3100L
C728
0.01
C730
16V10
VR701
2KB
R721
4700
IS STOP MODE.
8
9
10

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.


C
B
A
1
2
3
4
5
6
PS704
QR702
QR701
PS703
PS702
L701
⚠FS TUNER
IF
BM
AFC
BL
AGC
R759
C703
TP704
TP703
L718
C730
D710
C728
C748
R792
R7652
C7652
C797
T703
VCO
T704
AFC
C744
R740
R743
Q712
E C B
C725
R746
R747
R732
IC7651
R728
C741
R7653
TL710
R7651
C739
C745
R744
TP707
X711
L717
C721
C7651
C743
C746
L719
L716
R720
Q703
VR7660
FH ADJ
R731
TL711
C742
R741
R745
TP709
R719
R727
IC701
C740
R750
C727
C731
R7654
TL708
C734
C722
R718
C7654
C7653
R7655
R773
R774
R737
R725
Q771
R738
R772
C7655
X710
VR701
R721
U AGC
TP706
C719
C720
C782
R726
R723
C718
R717
X716
C717
R724
C710
R716
X720
L714
L711
L712
C7668
D7672
C707
C708
C702
C701
C7685
R7676

C.B.A. (VEP07749A)

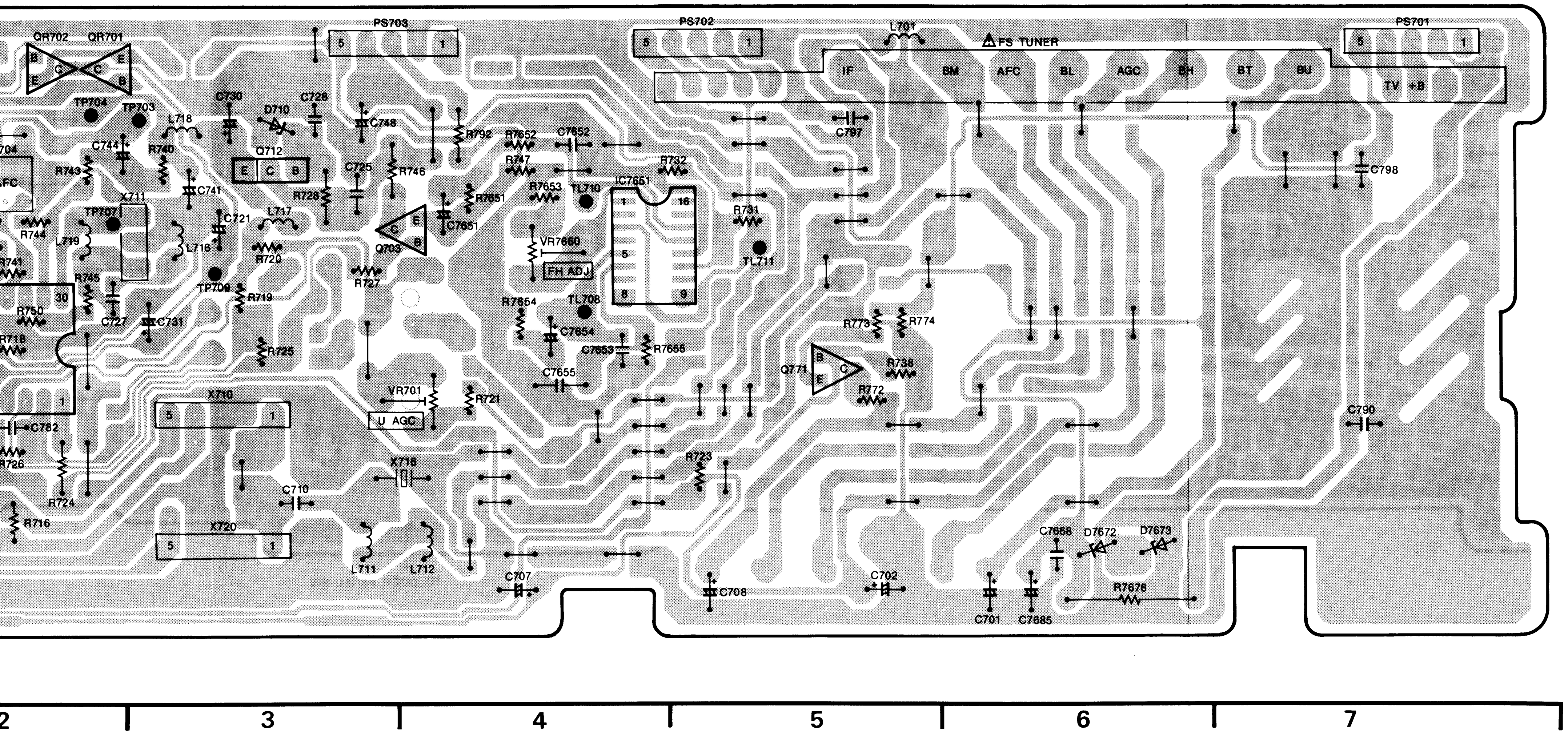
3-26. VPS PACK C.B.A. (VEP07538J)

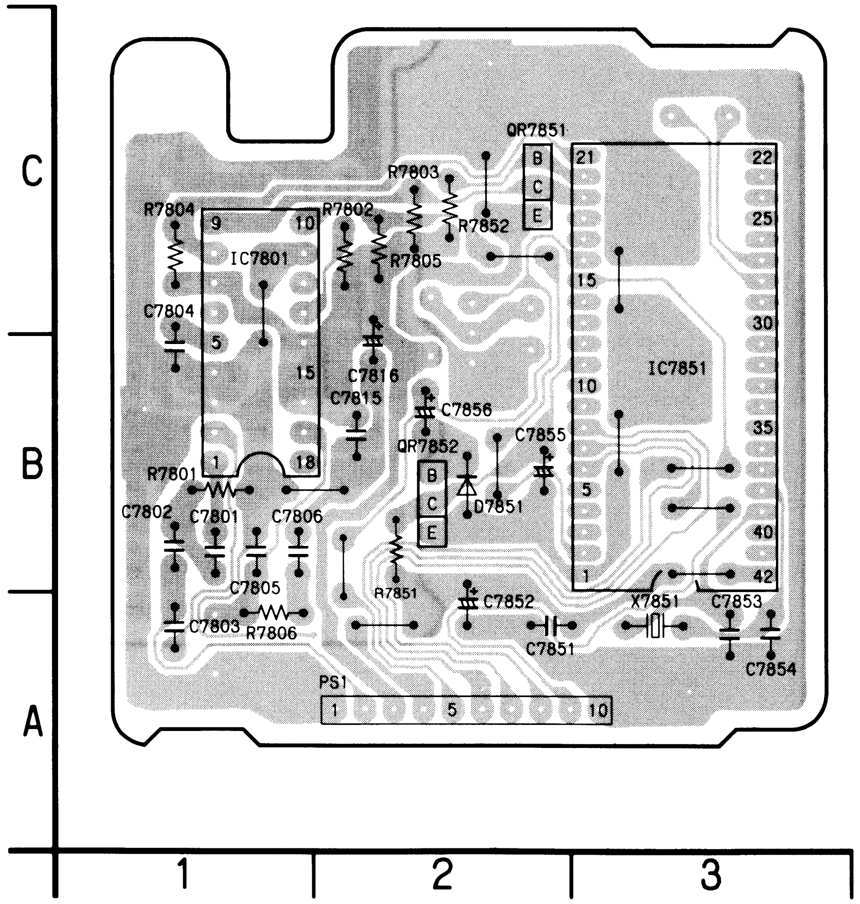
TV DEMODULATOR PACK C.B.A.			
Transistor		TP706	A-1
Q703	B-3	TP707	B-2
Q712	B-3	TP709	B-3
Q771	B-5	**Adjustment**	
Transistor & Resistor		T703	B-2
QR701	C-2	T704	B-2
QR702	C-2	VR701	B-4
Integrated Circuit		VR7660	B-4
IC701	B-1	**Connector**	
IC7651	B-4	PS701	C-7
Test Point		PS702	C-5
TP703	C-3	PS703	C-3
TP704	C-2	PS704	C-1

ADDRESS INFORMATION

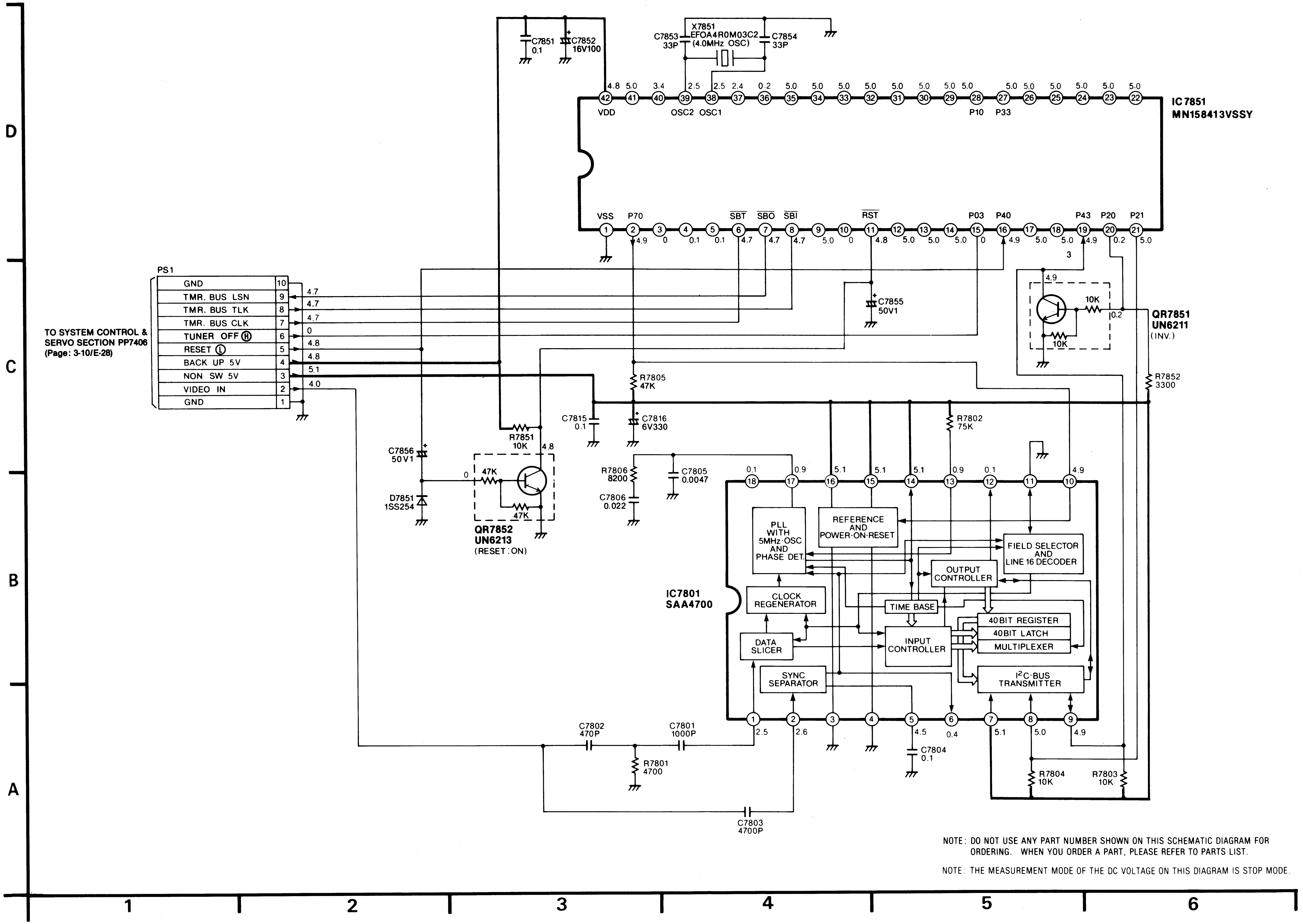
VPS PACK C.B.A.	
Transistor & Resistor	
QR7851	C-2
QR7852	B-2
Integrated Circuit	
IC7801	C-1
IC7851	B-3
Connector	
PS1	A-2

ADDRESS INFORMATION


QR702
QR701
TP704
TP703
C730
D710
C728
C748
R792
R7652
C7652
C744
R740
L718
Q712
E C B
R743
C741
C725
R746
R7651
R747
R7653
TL710
IC7651
R732
X711
TP707
C721
L717
R728
Q703
C7651
R731
TL711
R744
L719
L716
R720
VR7660
FH ADJ
R741
R745
TP709
R719
R727
R7654
TL708
C7654
C7653
R7655
C7655
R750
C727
C731
R718
R725
VR701
U AGC
R721
X710
C782
R726
R724
R716
X716
C710
R723
X720
L711
L712
C707
C708
PS703
PS702
L701
FS TUNER
IF
BM
AFC
BL
AGC
BH
BT
BU
PS701
TV +B
C797
C798
R773
R774
Q771
R738
R772
C790
C7668
D7672
D7673
C702
R7676
C701
C7685
2
3
4
5
6
7


C
B
A
QR7851
R7803
R7804
R7802
R7852
IC7801
R7805
C7804
C7816
C7815
C7856
IC7851
QR7852
C7855
R7801
D7851
C7802
C7801
C7806
C7805
R7851
C7852
X7851
C7853
C7803
R7806
C7851
C7854
PS1
1
2
3

3-27. VPS PACK SCHEMATIC DIAGRAM


D
C
B
A
1
2
3
4
5
6
PS1
GND 10
TMR. BUS LSN 9
TMR. BUS TLK 8
TMR. BUS CLK 7
TUNER OFF Ⓗ 6
RESET Ⓛ 5
BACK UP 5V 4
NON SW 5V 3
VIDEO IN 2
GND 1
4.7
4.7
4.7
0
4.8
4.8
5.1
4.0
TO SYSTEM CONTROL & SERVO SECTION PP7406 (Page: 3-10/E-28)
C7851 0.1
C7852 16V100
X7851 EFOA4R0M03C2 (4.0MHz OSC)
C7853 33P
C7854 33P
IC7851 MN158413VSSY
VDD
OSC2 OSC1
P10 P33
VSS P70
SBT SBO SBI
RST
P03 P40
P43 P20 P21
C7855 50V1
QR7851 UN6211 (INV.)
10K
10K
R7852 3300
R7805 47K
C7816 6V330
C7815 0.1
R7851 10K
C7856 50V1
D7851 1SS254
47K
47K
QR7852 UN6213 (RESET : ON)
R7806 8200
C7806 0.022
C7805 0.0047
R7802 75K
IC7801 SAA4700
PLL WITH 5MHz·OSC AND PHASE DET.
REFERENCE AND POWER·ON·RESET
FIELD SELECTOR AND LINE 16 DECODER
OUTPUT CONTROLLER
CLOCK REGENERATOR
TIME BASE
40BIT REGISTER
40BIT LATCH
MULTIPLEXER
DATA SLICER
INPUT CONTROLLER
SYNC SEPARATOR
I²C·BUS TRANSMITTER
C7802 470P
C7801 1000P
R7801 4700
C7803 4700P
C7804 0.1
R7804 10K
R7803 10K

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

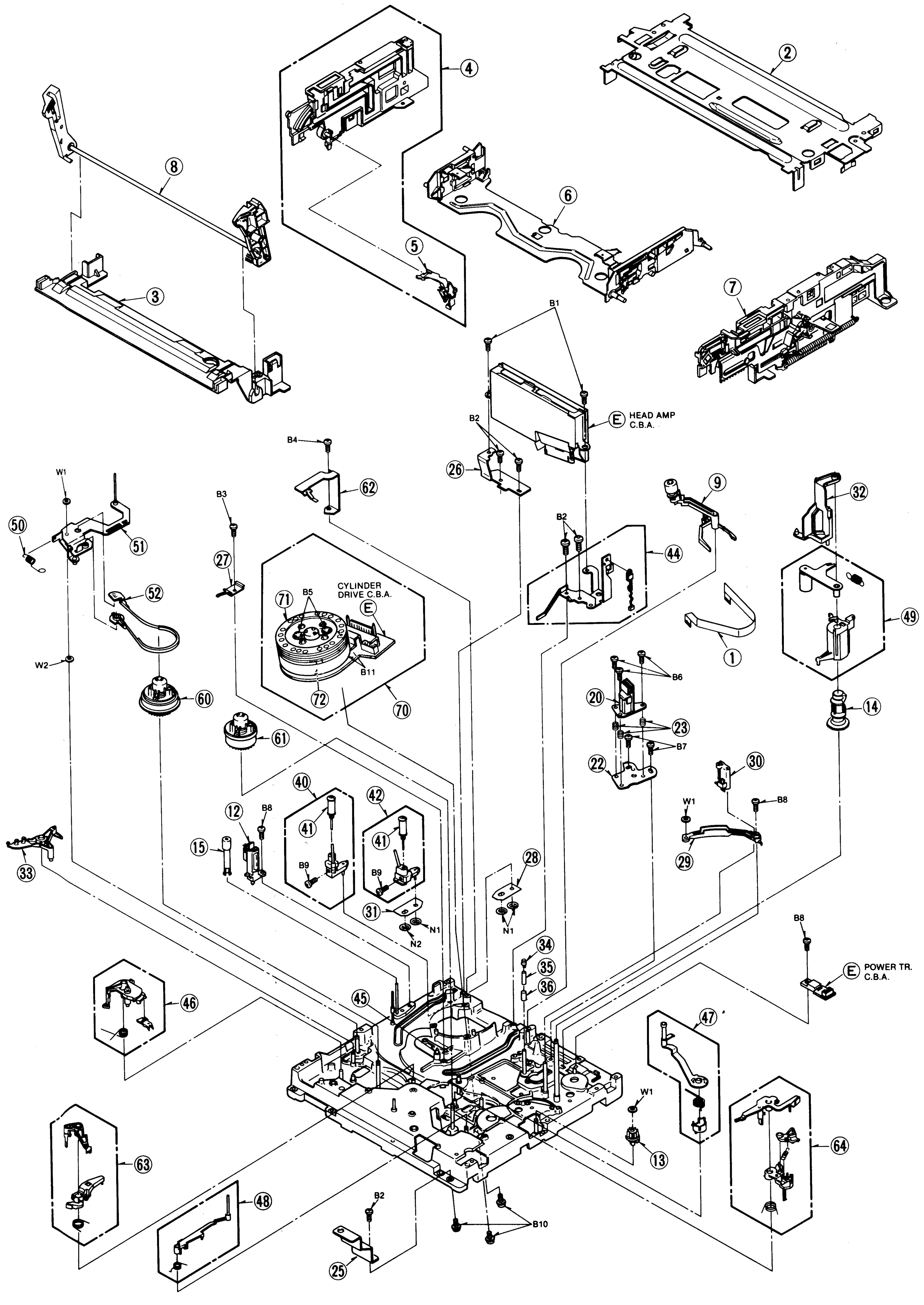
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

SECTION 4

EXPLODED VIEWS & PARTS LIST

4-1. EXPLODED VIEW & MECHANICAL REPLACEMENT PARTS LIST

❶ CHASSIS PARTS SECTION (1)



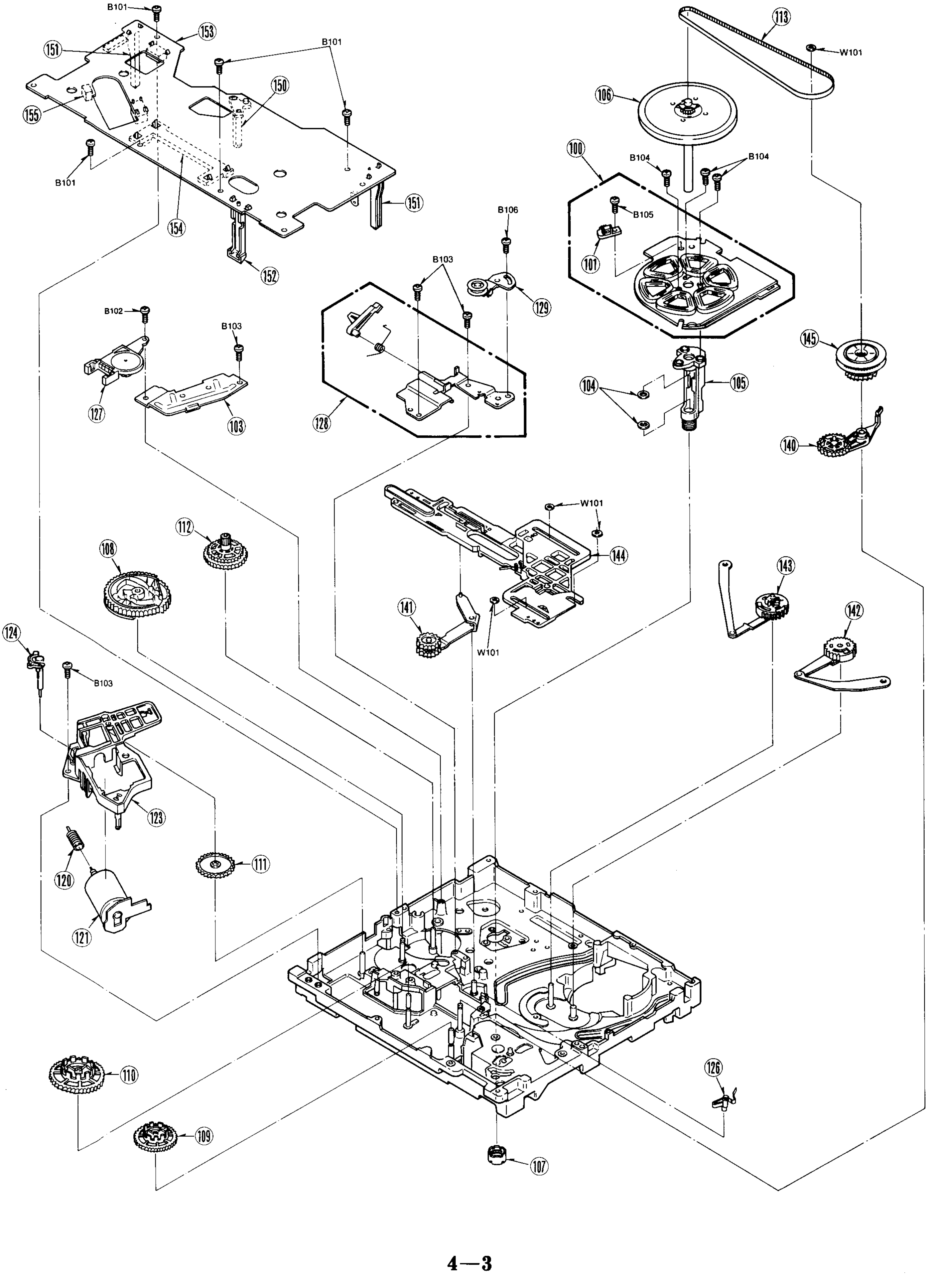
Note:1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		VWJ0653	FLEXIBLE CABLE (6P)	1	P4003-P1501
2(1)		VMA8644	TOP PLATE	1	
3(1)		VMA8787	CASSETTE GUIDE	1	
4(1)		VXA4660	SIDE PLATE (L) UNIT	1	
5(1)		VXL2250	OPENER LEVER UNIT	1	
6(1)		VXA4661	CASSETTE HOLDER PLATE UNIT	1	
7(1)		VXA4806	SIDE PLATE (R) UNIT	1	
8(1)		VXP1339	MAIN SHAFT UNIT	1	
9(1)		VXL2251	CLEANER ARM UNIT	1	
12(1)		VBS0050	FE HEAD	1	
13(1)		VDG0871	CARRIAGE CONNECTION GEAR	1	
14(1)		VDG0886	PINCH CAM GEAR	1	
15(1)		VXP1402	IMPEDANCE ROLLER UNIT	1	
20(1)		VED0205	A/C HEAD (1) UNIT	1	
22(1)		VMA8624	A/C HEAD BASE	1	
23(1)		VMB2515	A/C HEAD SPRING	3	
25(1)		VMA8761	MOUNT ANGLE	1	
26(1)		VMA8763	HEAD AMP MOUNT ANGLE (L)	1	
27(1)		VMC0917	EARTH SPRING	1	
28(1)		VMA8874	INCLIND BASE HOLDER (S)	1	
29(1)		VMD2078	P5 STOPPER BASE	1	
30(1)		VXA4927	P5 POST STOPPER	1	
31(1)		VMA8873	INCLIND BASE HOLDER (T)	1	
32(1)		VMD2101	OPENER PIECE	1	
33(1)		VML2776	TENSION SPRING ARM	1	
34(1)		VMX1544	P4 UPPER LIMITER	1	
35(1)		VMX2175	P4 SLEEVE	1	
36(1)		VMX2176	P4 LOWER LIMITER	1	
40(1)		VXA4982KIT	INCLINED BASE (S) UNIT	1	
41(1)		VXP1415	ROLLER POST	2	
42(1)		VXA4984KIT	INCLINED BASE (T) UNIT	1	
44(1)		VXA4974	HEAD AMP MOUNT ANGLE (R) U.	1	
45(1)		VMS5383	CASSETTE POSITION FIXTURE	1	
46(1)		VXL2310	REVIEW ARM UNIT	1	
47(1)		VXL2306	P5 ARM UNIT	1	
48(1)		VXL2243	TAKE UP TENSION REGULATOR	1	
			ARM UNIT		
49(1)		VXL2246	PINCH ARM UNIT	1	
50(1)		VMB2434	TENSION SPRING	1	
51(1)		VXL2309	TENSION ARM (1) UNIT	1	
52(1)		VXZ0310	TENSION BAND UNIT	1	
60(1)		VXR0221	SUPPLY REEL TABLE UNIT	1	
61(1)		VXR0222	TAKE UP REEL TABLE UNIT	1	
62(1)		VXS0113	EARTH PLATE	1	
63(1)		VXZ0312	SUPPLY BRAKE ARM UNIT	1	
64(1)		VXZ0313	TAKE UP BRAKE ARM UNIT	1	
70(1)		VEG1099	CYLINDER UNIT	1	
71(1)		VEH0638	UPPER CYLINDER UNIT	1	
72(1)		VSC3940	CYLINDER SHIELD PLATE	1	
B1(1)		VHD0773	SCREW	2	
B2(1)		XTV26+6F	SCREW	5	
B3(1)		XTV26+4F	SCREW	1	
B4(1)		XTN3+6FFZ	SCREW	1	
B5(1)		VHD0553	SCREW	2	
B6(1)		VHD0762	SCREW	3	
B7(1)		XTV26+6FZ	SCREW	2	
B8(1)		XTV26+8F	SCREW	3	
B9(1)		VHD0760	SCREW	2	
B10(1)		VHD0342	SCREW	3	
B11(1)		XYNV0029	SCREW	2	
N1(1)		VHN0192	NUT	3	
N2(1)		VHN0193	NUT	1	
W1(1)		VMX2208	WASHER	3	
W2(1)		XWGV26D5G	WASHER	1	

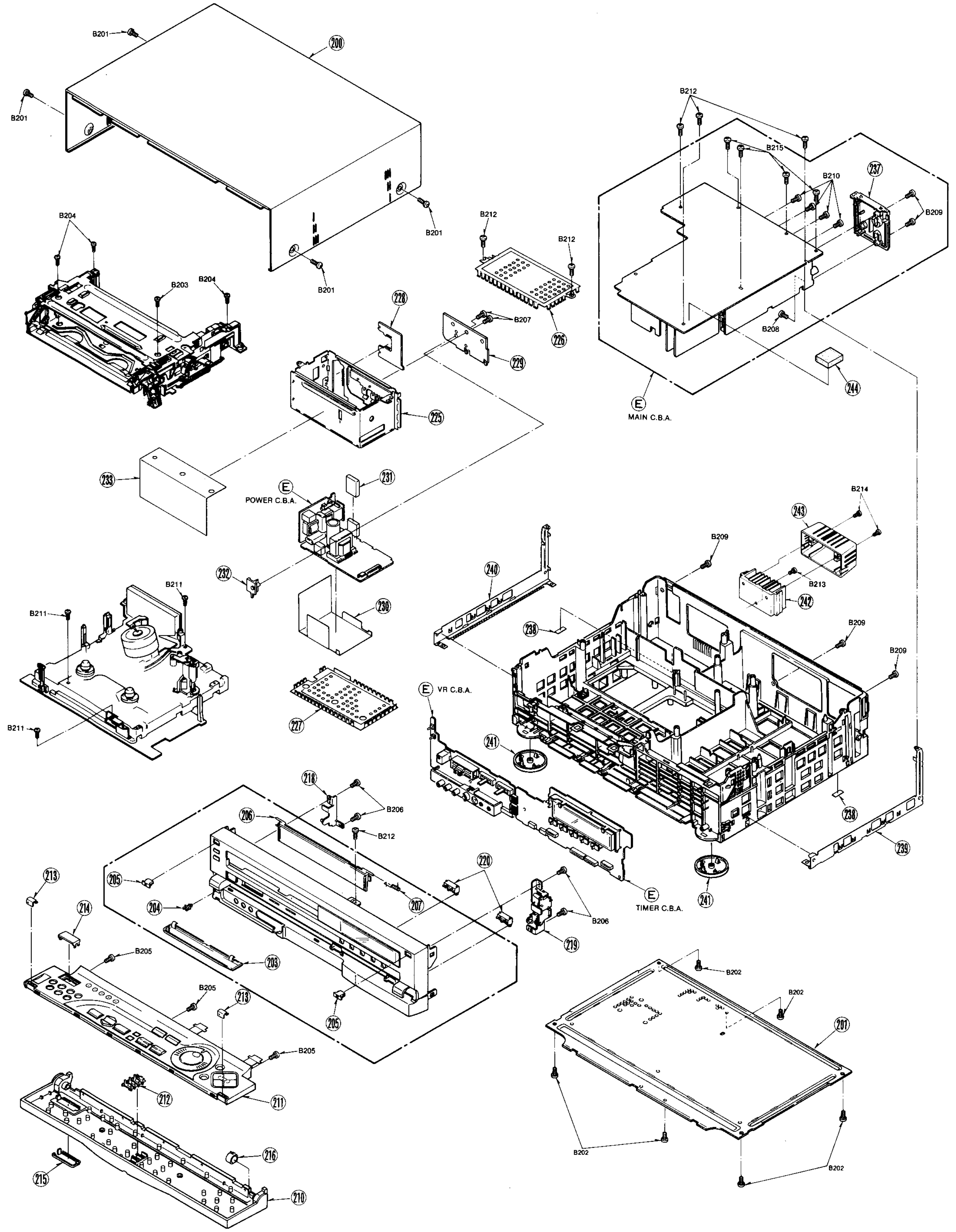
Note:1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
100(2)		VEK5927	STATOR UNIT	1	
101(2)		VBK0061	FG HEAD	1	
103(2)		VMA8930	ROTOR STOPPER	1	
104(2)		VMX1927	OIL SEAL	2	
105(2)		VXD0140	HOUSING UNIT	1	
106(2)		VXP1350	ROTOR UNIT	1	
107(2)		VXQ0297	THRUST SCREW UNIT	1	
108(2)		VDG0913	MAIN CAM GEAR	1	
109(2)		VDG0956	SUPPLY REEL GEAR	1	
110(2)		VDG0957	TAKE UP REEL GEAR	1	
111(2)		VDG0868	WORM WHEEL GEAR	1	
112(2)		VDG0885	SUB CAM GEAR	1	
113(2)		VDV0235	TIMING BELT	1	
120(2)		VDG0866	WORM GEAR	1	
121(2)		VEM0427	LOADING MOTOR (1) UNIT	1	
123(2)		VMD1942	MOTOR BRACKET	1	
124(2)		VMD2153	S-VHS SW ACTUATER	1	
126(2)		VML2725	IDLER CONTROL LEVER	1	
127(2)		VSS0365	MODE SW	1	
128(2)		VXA5138	SS BRAKE BASE UNIT	1	
129(2)		VXA4799	TENSION ROLLER UNIT	1	
140(2)		VXL2366	IDLER ARM UNIT	1	
141(2)		VXL2230	DIRECT LEVER UNIT	1	
142(2)		VXL2299	SUPPLY LOADING ARM UNIT	1	
143(2)		VXL2300	TAKE UP LOADING ARM UNIT	1	
144(2)		VXL2307	MAIN LEVER UNIT	1	
145(2)		VXP1409	CENTRE CLUTCH	1	
150(2)		VMD1926	LED HOLDER	1	
151(2)		VMD1927	PHOTO TRANSISTOR HOLDER	2	
152(2)		VES0695	SAFETY TAB SW	1	
153(2)		VJB00T87	MECHANISM CONNECTION C.B.	1	ELECTRICAL PARTS ON
					THE C.B.A. IS LISTED
					ON ELECTRICAL PARTS
					LIST.
154(2)		VMD2029	REEL SHAFT GUIDE	1	
155(2)		VST0176	S-VHS CASSETTE SW	1	
B101(2)		VHD0772	SCREW	4	
B102(2)		XTV26+8F	SCREW	1	
B103(2)		XTV26+6F	SCREW	4	
B104(2)		VHD0753	SCREW	3	
B105(2)		VHD0754	SCREW	1	
B106(2)		XSB26+4FZ	SCREW	1	
W101(2)		VMX2208	WASHER	4	

❷ CHASSIS PARTS SECTION (2)


B101
⑬153
⑮151
B101
⑮150
⑮155
B101
B101
⑮154
⑮151
⑮152
⑪113
W101
⑩106
⑩100
B104
B104
B105
⑩101
B106
B103
⑫129
B102
B103
⑫127
⑩103
⑫128
⑩104
⑩105
⑭145
⑭140
W101
⑭144
⑪112
⑩108
⑭141
W101
⑭143
⑭142
⑫124
B103
⑫123
⑫120
⑪111
⑫121
⑪110
⑫126
⑩109
⑩107

❸ CASING PARTS SECTION


B201
200
B201
B201
B201
B204
B204
B203
B212
B212
228
B207
226
229
225
B212
B215
B210
237
B209
B208
244
Ⓔ
MAIN C.B.A.
233
Ⓔ
POWER C.B.A.
231
232
230
227
B211
B211
B211
240
B209
243
B214
B213
242
238
B209
B209
Ⓔ VR C.B.A.
241
238
239
241
Ⓔ
TIMER C.B.A.
218
B206
206
B212
220
205
204
207
B206
219
213
214
B205
203
B205
213
205
B205
211
212
216
215
210
B202
B202
201
B202
B202

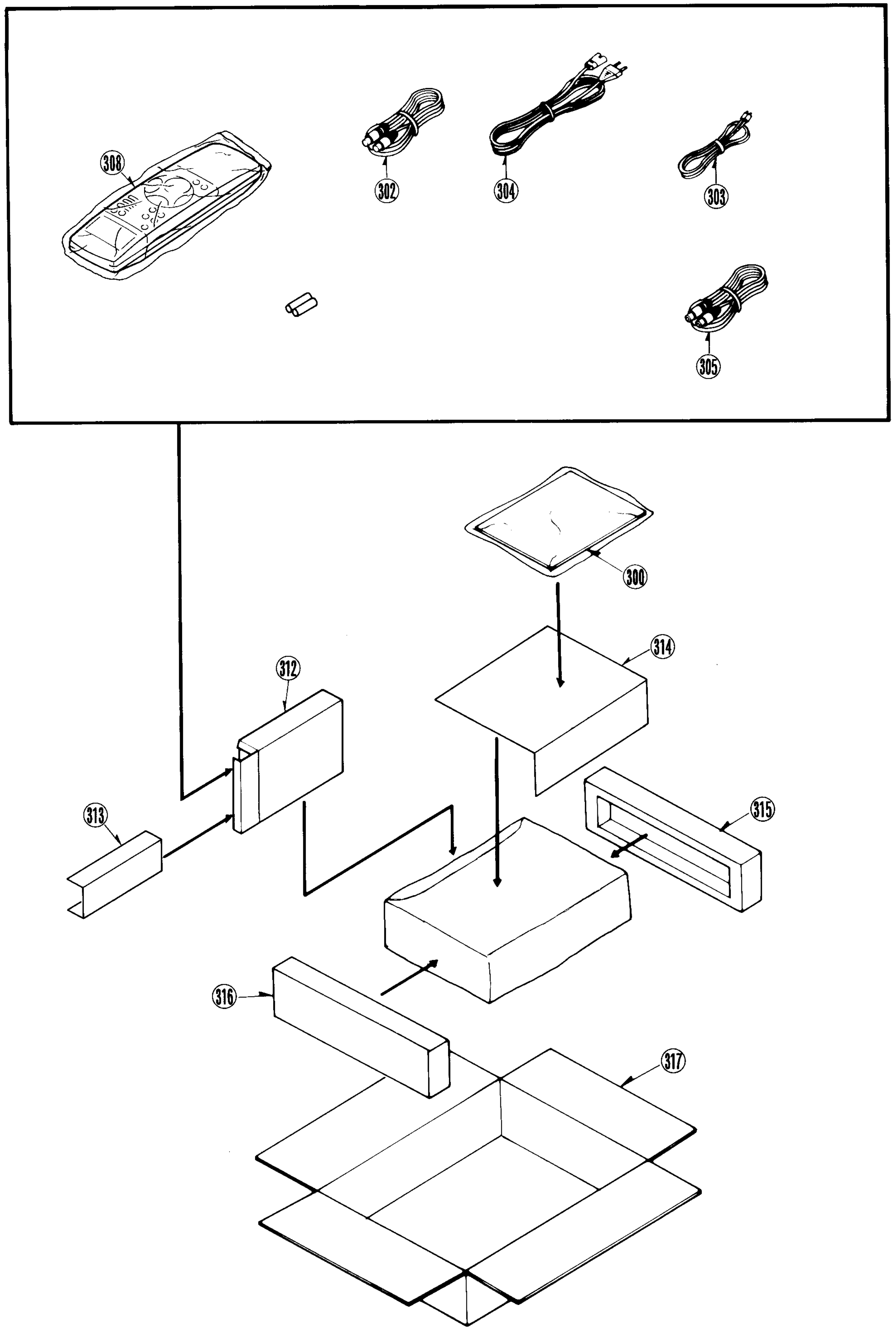
Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
200(3)		VGM1032	TOP PANEL	1	
201(3)		VKU0387	BOTTOM PLATE	1	
202(3)		VYP5411	FRONT PANEL (1) UNIT	1	
203(3)		VYF2013	SUB DOOR UNIT	1	
204(3)		VGQ0550	DOOR LOCK PIECE	1	
205(3)		VGQ2216	DOOR MAGNET	2	
206(3)		VKF2118	BLINDER PANEL	1	
207(3)		VMB2521	BLINDER SPRING	1	
210(3)		VYC0596	DOOR PANEL (1) UNIT	1	
211(3)		ESU19555A	DOOR PANEL SW UNIT	1	
212(3)		VGL0578	DOOR PANEL LIGHT	1	
213(3)		VMP4182	MAGNET ANGLE	2	
214(3)		VKW1333	IR WINDOW (INSIDE)	1	
215(3)		VKW1827	IR WINDOW (OUTSIDE)	1	
216(3)		VDG0954	DOOR GEAR	1	
218(3)		VXA5132	DOOR ANGLE (L) UNIT	1	
219(3)		VXA5130	DOOR ANGLE (R) UNIT	1	
220(3)		VGQ2807	FLEXIBLE CABLE HOLDER	2	
225(3)		VXA5129	POWER SHIELD PLATE (MAIN)U.	1	
226(3)		VSC2621	POWER SHIELD PLATE (TOP)	1	
227(3)		VSC2622	POWER SHIELD PLATE (BOTTOM)	1	
228(3)		VMP4183	INLET ANGLE	1	
229(3)		VSC3938	HEAT SINK (P)	1	
230(3)		VMZ2207	POWER BARRIER	1	<!>
231(3)		VMZ2208	INSULATION CAP	1	<!>
232(3)		VGQ3401	IC HOLDER	1	
233(3)		VMZ2257	SHIELD BARRIER	1	
237(3)		VJH0683	RF ANT TERMINAL PLATE	1	
238(3)		VKA0122	FOOT	2	
239(3)		VMP4178	SIDE ANGLE (R)	1	
240(3)		VMP4179	SIDE ANGLE (L)	1	
241(3)		VKA0165	LEG	2	
242(3)		VSC2623	HEAT SINK (O)	1	
243(3)		VKF1150	HEAT SINK COVER	1	
244(3)		VMT0199	C.B.A. SPACER	1	
B201(3)		XTV3+10TFZ	SCREW	4	
B202(3)		VHD0059	SCREW	6	
B203(3)		XTV26+10F	SCREW	1	
B204(3)		XTV26+8FR	SCREW	3	
B205(3)		XTN26+8GFZ	SCREW	3	
B206(3)		XTV3+8G	SCREW	4	
B207(3)		XTS3+10J	SCREW	2	
B208(3)		XTV3+6F	SCREW	1	
B209(3)		XTV3+12JFZ	SCREW	5	
B210(3)		XTV3+8GFZ	SCREW	4	
B211(3)		VHD0168	SCREW	3	
B212(3)		VHD0773	SCREW	6	
B213(3)		XYC3+FF12FR	SCREW	1	
B214(3)		XTV3+14FZ	SCREW	2	
B215(3)		XTV3+10J	SCREW	4	

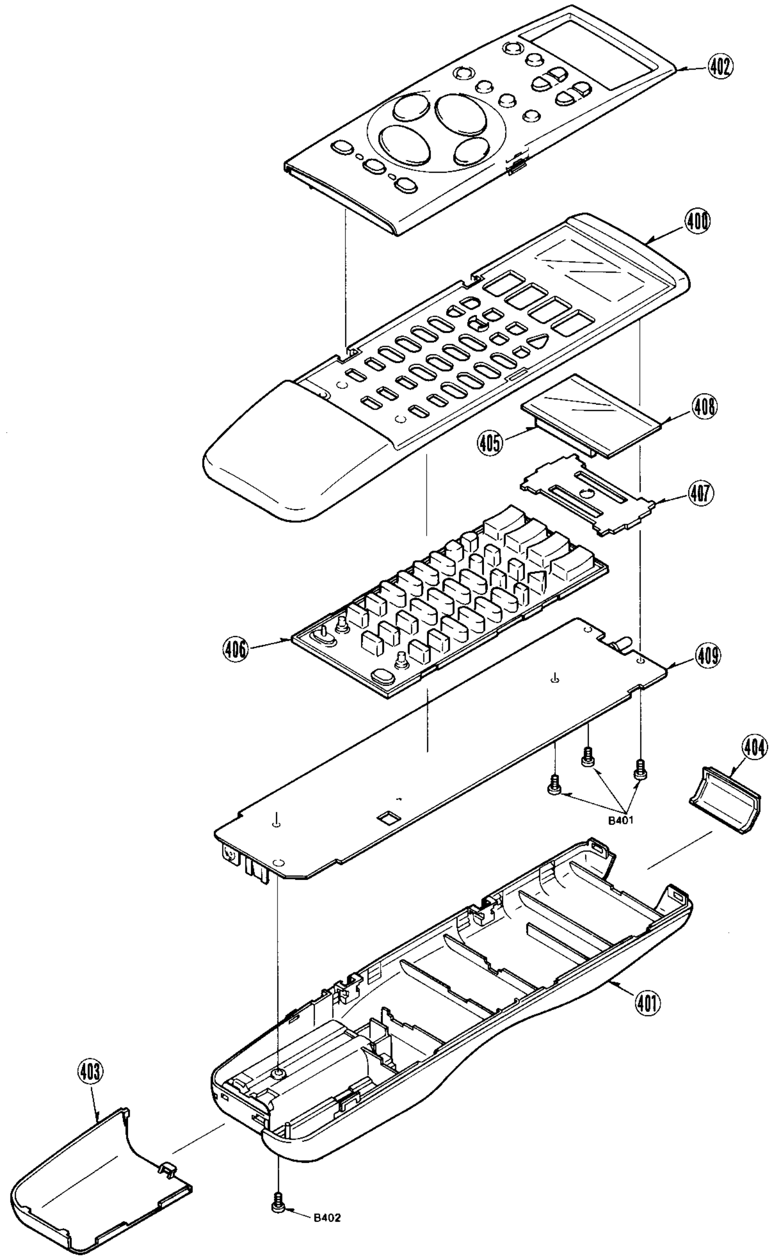
Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
300(4)		VQT5444	OPERATING INSTRUCTIONS	1	<!>
			(ENGLISH/GERMAN)		
300(4)		VQT5445	OPERATING INSTRUCTIONS	1	<!>
			(ITALIAN)		
300(4)		VQT5446	OPERATING INSTRUCTIONS	1	<!>
			(FRENCH/DUTCH)		
302(4)		VJA0710	DIN RF CABLE	1	
303(4)		VJA0231	AUDIO CABLE	1	
304(4)		VJA0665	AC CORD	1	<!>
305(4)		VJA0787	EDIT 5P CABLE	1	
308(4)		VEQ1534	REMOTE CONTROLLER	1	
312(4)		VPK0834	ACCESSORIES PACKING	1	
313(4)		VPN3773	ACCESSORIES PAD	1	
314(4)		VPN3779	UPPER PAD	1	
315(4)		VPN3763	CUSHION (R)	1	
316(4)		VPN3764	CUSHION (L)	1	
317(4)		VPG7187	PACKING	1	
			SERVICE FIXTURES & TOOLS		
		VFJ8125H3F	VHS ALIGNMENT TAPE(PAL)	1	
		VFK0335	RETAINING RING REMOVER	1	
			(3mm/4mm)		
		VFK0329	POST ADJUSTMENT SCREWDRIVER	1	
		VFK0326	HEX WRENCH SET	1	
		VFK0132	BACK TENSION METER	1	
		VFK27	HEAD CLEANING STICK	1	
		MOR265	MORLYTONE GREASE	1	
		VFK0341	UPPER CYLINDER REMOVER	1	
		VFK0680	WHITE GREASE	1	
		VFK0851	CENTRE FIXING TOOL	1	
		VFK0330	FINE ADJUSTMENT GEAR DRIVER	1	

❹ PACKING PARTS SECTION



❺ REMOTE CONTROLLER UNIT



Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
400(5)		VYK5442	TOP COVER UNIT	1	
401(5)		VYK5446	BOTTOM COVER UNIT	1	
402(5)		VYK5447	DOOR PANEL UNIT	1	
403(5)		VKF2115	BATTERY COVER	1	
404(5)		VKW1802	IR WINDOW	1	
405(5)		VSQ0830	CONDUCTIVE RUBBER	2	
406(5)		VSP0772	RUBBER CONTACT	1	
407(5)		VSQ0829	LCD SPACER	1	
408(5)		VSL0309A	LCD	1	
409(5)			REMOTE CONTROLLER C.B.A.	1	THE C.B.A. IS NOT
					SUPPLIED AS SPARE
					PART.
B401(5)		XTB2+6G	SCREW	3	
B402(5)		XTB2+8GFZ	SCREW	1	

4-2. ELECTRICAL REPLACEMENT PARTS LIST

Note:1.Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE : Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.
3.Unless otherwise specified,
All resistors are in OHMS , K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf),P=uuF.
4.The P.C.Board units marked width'■'show below the main assembled parts.
5.The marking(RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP03A37A	MAIN C.B.A.	1	(RTL)
					INCLUDING THE TV
					DEMODULATOR PACK
					C.B.A.(VEP07749A),
					CAP DRIVE C.B.A.
					(VEP02412A),
					INPUT/OUTPUT PACK
					C.B.A.(VEP03A38A),
					LUMINANCE &
					CHROMINANCE PACK
					C.B.A.(VEP03A39A),
					SUB LUMINANCE &
					CHROMINANCE PACK
					C.B.A.(VEP03A40A),
					AUDIO C.B.A.
					(VEP04410E),
					SUB AUDIO C.B.A.
					(VEP04417A),
					VPS C.B.A.
					(VEP07538J),
					DECORDER PACK C.B.A.
					(VEP07671A).
		VEP07749A	TV DEMODULATOR PACK C.B.A.	1	(RTL)
					INCLUDED IN MAIN
					C.B.A.(VEP03A37A).
		VEP02412A	CAP DRIVE C.B.A.	1	(RTL)
					INCLUDED IN MAIN
					C.B.A.(VEP03A37A).
		VEP03A38A	INPUT/OUTPUT PACK C.B.A.	1	(RTL)
					INCLUDED IN MAIN
					C.B.A.(VEP03A37A).
		VEP03A39A	LUMINANCE & CHROMINANCE	1	(RTL)
			PACK C.B.A.		INCLUDED IN MAIN
					C.B.A.(VEP03A37A).
		VEP03A40A	SUB LUMINANCE &	1	(RTL)
			CHROMINANCE PACK C.B.A.		INCLUDED IN MAIN
					C.B.A.(VEP03A37A).
		VEP04410E	AUDIO C.B.A.	1	(RTL)
					INCLUDED IN MAIN
					C.B.A.(VEP03A37A).
		VEP04417A	SUB AUDIO C.B.A.	1	(RTL)
					INCLUDED IN MAIN
					C.B.A.(VEP03A37A).
		VEP07538J	VPS C.B.A.	1	(RTL)
					INCLUDED IN MAIN
					C.B.A.(VEP03A37A).
		VEP07671A	DECORDER PACK C.B.A.	1	(RTL)
					INCLUDED IN MAIN
					C.B.A.(VEP03A37A).
		VEX0126	CYLINDER DRIVE C.B.A.	1	(RTL)
		VEP05176G	HEAD AMP C.B.A.	1	(RTL)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP06926A	VR C.B.A.	1	(RTL)
		VEP07739A	TIMER C.B.A.	1	(RTL)
		VEP01558A	POWER C.B.A.	1	(RTL)<!>
		----------	MECHANISM CONNECTION C.B.A.	1	(RTL)
					NOT SUPPLIED AS
					C.B.A.(C.B. IS
					LISTED ON MECHANICAL
					PARTS LIST).
		VEP00S86A	POWER TRANSISTOR C.B.A.	1	(RTL)
		----------	MOTOR C.B.A.	1	(RTL)
					C.B.A. IS INCLUDED
					IN LOADING MOTOR (1)
					UNIT (VEM0428).
		ENC17984	RF CONVERTER	1	<!>
		ENV578D7H6	TUNER	1	<!>
F1101		VSF0107C16	FUSE	1	<!>
	■	VEP03A37A	MAIN C.B.A.		(RTL)
C301		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C302		ECUM1H561JCN	C.CAPACITOR CH 50V 560P	1	
C305		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C306		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C308		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C309		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C310		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C311		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C312		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	1	
C313		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C314		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C315		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C317		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C318		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C321		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C322		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C323		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C325		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C326		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C327		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C328		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C329		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C330		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C331		ECUM1H221KBN	CAPACITOR 50V 220P	1	
C332		ECUM1H104ZFN	CAPACITOR 50V 0.1U	1	
C701		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C702		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C703		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C707		ECEA1HK0R1	E.CAPACITOR 50V 0.1U	1	
C708		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C710		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C717-20		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C721		ECEA1HKR27K	E.CAPACITOR 50V 0.27U	1	
C722		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C725		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C727		ECUM1H080DCN	C.CAPACITOR CH 50V 80P	1	
C728		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C730		ECEA1CK100	E.CAPACITOR 16V 10U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C731		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C734		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C739		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C740		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C741		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C742		ECUM1H030CCN	C.CAPACITOR CH 50V 3P	1	
C743		ECUM1H270RSN	C.CAPACITOR CH 50V 27P	1	
C744		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C745		ECUM1H680JPN	C.CAPACITOR CH 50V 68P	1	
C746		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C748		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C782		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C790		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C797,98		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C801		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C802		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C803-05		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C806		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C807		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C808		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C809		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C810,11		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C812		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C813		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C814		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C815-17		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C818		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C819		ECQB1H332JF	P.CAPACITOR 50V 3300P	1	
C820		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C821		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C822-24		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C825		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C826		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C831		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C832		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C833		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C845		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C846		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C847		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C848		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C849		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C851		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C852		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C853		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C854		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C855		ECEA1HKA0R1	E.CAPACITOR 50V 0.1	1	
C1002		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C1003		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2001		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C2003		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2005		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C2006		ECEA1HKAR47	E.CAPACITOR 50V 0.47U	1	
C2007		ECQV1H683JM	P.CAPACITOR 50V 0.068U	1	
C2009		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C2010		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2501-04		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	4	
C2505		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C2506		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2507		ECQV1H683JM	P.CAPACITOR 50V 0.068U	1	
C2508-10		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	3	
C2511-14		VCUV1H333KBN	C.CAPACITOR 50V 0.033U	4	
C2515		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C2516		ECEA1HKAR22	E.CAPACITOR 50V 0.22	1	
C2517		ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C2518		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2519,20		VCUV1H333KBN	C.CAPACITOR 50V 0.033U	2	
C2521		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C2522		ECEA1HKNR47	E.CAPACITOR 50V 0.47U	1	
C2523		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C2524,25		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C2526		ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C2527		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C2528		ECEA1HKNR47	E.CAPACITOR 50V 0.47U	1	
C2529		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C2530		ECEA1HKN010	E.CAPACITOR 50V 1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C2531		ECUM1E224ZFN	C.CAPACITOR CH 25V 0.22U	1	
C2532		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2533		ECEA0JKA330	E.CAPACITOR 6.3V 33U	1	
C2534,35		ERJ6GMZ0R00	M.RESISTOR 1/10W 0	2	
C3001		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C3002		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C3013		ECA0JM331	E.CAPACITOR 6.3V 330U	1	
C3015		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3027,28		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C3030		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3031-33		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	3	
C3321		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C3322		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3323		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C3324		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3325		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3326		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3327		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3328		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3329		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3330		ECEA0JKA330	E.CAPACITOR 6.3V 33U	1	
C3331		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3332		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3333		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3334-36		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C3338-40		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	3	
C3341		ECEA1EKA3R3	E.CAPACITOR 25V 3.3U	1	
C3342		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C3343		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3344		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3345		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3347		ECUM1H121JCN	C.CAPACITOR CH 50V 120P	1	
C3348		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3349		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3350,51		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C3352		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3353		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3354		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C3355		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3356		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3357		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3358		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3360		ECUM1H681JCN	C.CAPACITOR 50V 680P	1	
C3361		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3362		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3363		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C3364		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3365		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3366		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3367		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3368		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3369		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C3370		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3372		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3373		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3374		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3375		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3376,77		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C3501		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C3502		ECRHA030E54R	TRIMMER	1	
C3503		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3504		ECQB1H223JF	P.CAPACITOR 50V 0.022U	1	
C3505		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C3506		ECQB1H682JF	P.CAPACITOR 50V 6800P	1	
C3507		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3508		ECEA1HKA3R3	E.CAPACITOR 16V 3.3U	1	
C3509		ECUM1H122KBN	C.CAPACITOR CH 50V 1200P	1	
C3510		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3511		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3512		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3513,14		ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C3515		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C3516,17		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	2	
C3518		ECEA1HKAR47	E.CAPACITOR 50V 0.47	1	
C3519		ECEA1CKA100	E.CAPACITOR 16V 10U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3901-05		ECEA1CKA100	E.CAPACITOR 16V 10U	5	
C3906		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3907		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3908		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3909,10		ECA1AM471	E.CAPACITOR 10V 470U	2	
C3913		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3916		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3917		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4001,02		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C4003,04		ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C4005		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4006		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C4007		ECEA1CPZ101	E.CAPACITOR 16V 100U	1	
C4008		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C4009		ECEA1CPZ101	E.CAPACITOR 16V 100U	1	
C4010		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C4011,12		ECUM1H122KBN	C.CAPACITOR CH 50V 1200P	2	
C4501		ECCD2H181J	C.CAPACITOR 500V 180P	1	
C4501		ECQB1H152JH	P.CAPACITOR 50V 1500P	1	
C4502		ECQP1222JZ	P.CAPACITOR 2200P	1	
C4502		ECUM1C104ZFN	C.CAPACITOR CH 16V 0.1U	1	
C4503		ECQB1H102JF	P.CAPACITOR 50V 1000P	1	
C4503		ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C4504		ECEA1CPZ470	E.CAPACITOR 16V 47U	1	
C4504		ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C4505		ECEA1CPZ470	E.CAPACITOR 16V 47U	1	
C4505		ECEA16M33	E.CAPACITOR 16V 33U	1	
C4506		ECQV1H104JM	P.CAPACITOR 50V 0.1U	1	
C4506		VCEA1CAH100	E.CAPACITOR 16V 10U	1	
C4507		ECQB1H223JA	P.CAPACITOR 50V 0.022U	1	
C4507		ECQB1H333JF	P.CAPACITOR 50V 0.033U	1	
C4508		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4508		ECEA1EBZ4R7	E.CAPACITOR 25V 4.7U	1	
C4509		ECEA1APZ470	E.CAPACITOR 10V 47U	1	
C4509		ECQB1H472JF	P.CAPACITOR 50V 4700P	1	
C4510		ECQB1H103JA	P.CAPACITOR 50V 0.01U	1	
C4510		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4511		ECEA1AKA220	E.CAPACITOR 10V 22U	1	
C4511		ECQB1H332JA	P.CAPACITOR 50V 3300P	1	
C4512		ECEA1AKA220	E.CAPACITOR 10V 22U	1	
C4512		ECUX1H561JV	C.CAPACITOR CH 50V 560P	1	
C4513		ECEA1HKA3R3	E.CAPACITOR 16V 3.3U	1	
C4513		ECUM1H681JN	C.CAPACITOR CH 50V 680P	1	
C4514		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C4514		ECUM1H561JN	C.CAPACITOR CH 50V 560P	1	
C4515		VCEA1EAH4R7	E.CAPACITOR 16V 4.7U	1	
C4517		ECEA1APZ101	E.CAPACITOR 10V 100U	1	
C4518		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4521		ECUM1C473KBV	C.CAPACITOR CH 16V 0.047U	1	
C4522		VCEA1HAH3R3	E.CAPACITOR 50V 3.3U	1	
C4528		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4530		ECEA0JPK470	E.CAPACITOR 6.3V 47U	1	
C4533		ECEA1CPZ330	E.CAPACITOR 16V 33U	1	
C4537		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C4538		ECEA1HUR47	E.CAPACITOR 50V 0.47U	1	
C4539		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C4541		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4545		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4552		ECUM1C104ZFN	C.CAPACITOR CH 16V 0.1U	1	
C4556		VCEA1CAH100	E.CAPACITOR 16V 10U	1	
C4557		ECQB1H223JA	P.CAPACITOR 50V 0.022U	1	
C4558		ECEA1EBZ4R7	E.CAPACITOR 25V 4.7U	1	
C4559		ECEA1APZ470	E.CAPACITOR 10V 47U	1	
C4560		ECQB1H103JA	P.CAPACITOR 50V 0.01U	1	
C4561		ECQB1H332JA	P.CAPACITOR 50V 3300P	1	
C4562		ECUM1H561JN	C.CAPACITOR CH 50V 560P	1	
C4563		ECUM1H681JN	C.CAPACITOR CH 50V 680P	1	
C4564		ECUM1H561JN	C.CAPACITOR CH 50V 560P	1	
C4565		VCEA1EAH4R7	E.CAPACITOR 16V 4.7U	1	
C4567		ECEA1APZ101	E.CAPACITOR 10V 100U	1	
C4568		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4572		VCEA1HAH3R3	E.CAPACITOR 50V 3.3U	1	
C4576		ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	1	
C4583		ECEA1CPZ330	E.CAPACITOR 16V 33U	1	
C4585,86		ECEA1APZ101	E.CAPACITOR 10V 100U	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4591		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4592		ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C4604		ECUM1H182JN	C.CAPACITOR CH 50V 1800P	1	
C4606		VCEA0JAC470	E.CAPACITOR 6.3V 47U	1	
C4611		ECQB1H182JZ	F.CAPACITOR 50V 1800P	1	
C4613		ECUM1H821JCN	C.CAPACITOR CH 50V 820P	1	
C4616		ECUX1H102ZFV	C.CAPACITOR CH 50V 1000P	1	
C4617		ECEA1OM22	E.CAPACITOR 10V 22U	1	
C4618		ECQB1H822JH	P.CAPACITOR 50V 8200P	1	
C4619		ECEA1APB100	E.CAPACITOR 10V 10U	1	
C4621		ECEA0JPK101	E.CAPACITOR 6.3V 100U	1	
C4629		ECQB1H562JZ	P.CAPACITOR 50V 5600P	1	
C4636		ECUM1H471JN	C.CAPACITOR CH 50V 470P	1	
C4638		ECQB1H822JH	P.CAPACITOR 50V 8200P	1	
C4651		ECQB1H333JA	P.CAPACITOR 50V 0.033U	1	
C4652,53		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C4901,02		ECQB1H103JF	P.CAPACITOR 50V 0.01U	2	
C4903,04		ECQB1H332JF	P.CAPACITOR 50V 3300P	2	
C4905,06		VCEA1CAD100	E.CAPACITOR 16V 10U	2	
C4907,08		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C4909,10		ECQB1H103JF	P.CAPACITOR 50V 0.01U	2	
C4911,12		ECQB1H332JF	P.CAPACITOR 50V 3300P	2	
C4913,14		VCEA1CAD100	E.CAPACITOR 16V 10U	2	
C4915,16		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C4917,18		ECQB1H103JF	P.CAPACITOR 50V 0.01U	2	
C4919,20		ECQB1H332JF	P.CAPACITOR 50V 3300P	2	
C4923,24		VCEA0JAC101	E.CAPACITOR 6.3V 100U	2	
C6001		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6002		ECEA0JKA330	E.CAPACITOR 6.3V 33U	1	
C6003		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6004		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6005		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6006		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6007,08		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	2	
C6010		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C6011		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C6012		ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C6013		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C6014		ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C6015		ECEA1HKA3R3	E.CAPACITOR 16V 3.3U	1	
C6016,17		ECEA1HKN3R3	E.CAPACITOR 50V 3.3U	2	
C6018		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C6019		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6020		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6021		ECEA16M10	E.CAPACITOR 16V	1	
C6022		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C6023		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C6024		ECEA1HKA4R7	E.CAPACITOR 50V 4.7	1	
C6025		ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C6026		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C6027		ECUM1E104KBN	C.CAPACITOR CH 25V 0.01U	1	
C6028		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C6029		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C6030		EECS5R5T224N	E.CAPACITOR 5.5V 0.22U	1	
C6034		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6035		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C6036		ECEA0JKA330	E.CAPACITOR 6.3V 33U	1	
C6037		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6038		ECEA1AKA470	E.CAPACITOR 10V 47U	1	
C6040		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6041		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C6042		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6043		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6045		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6046		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6047		ECQV1H683JM	P.CAPACITOR 50V 0.068U	1	
C6049		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C6050,51		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C6053-56		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C6062		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C6063		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C7302		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C7303		ECQV1H393JZ	P.CAPACITOR 50V 0.039U	1	
C7304		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C7305		ECQV1H473JZ	P.CAPACITOR 50V 0.047U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C7306		ECQB1H102KZ	P.CAPACITOR 50V 1000P	1	
C7307		ECQB1H822KZ	P.CAPACITOR 50V 8200P	1	
C7308		ECQB1H102KZ	P.CAPACITOR 50V 1000P	1	
C7309		ECQB1H152JH	P.CAPACITOR 50V 1500P	1	
C7310		ECEA16M10	E.CAPACITOR 16V	1	
C7311		ECEA50MR47	E.CAPACITOR 50V 0.47U	1	
C7312		ECQV1H224JZ	P.CAPACITOR 50V 0.22U	1	
C7313		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C7314		ECQV1H224JZ	P.CAPACITOR 50V 0.22U	1	
C7315		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C7316		ECQV1H224JZ	P.CAPACITOR 50V 0.22U	1	
C7317		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C7318		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7319		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C7320,21		ECEA1CK100	E.CAPACITOR 16V 10U	2	
C7323,24		ECQV1H393JZ	P.CAPACITOR 50V 0.039U	2	
C7331		ECQV1H474JZ	P.CAPACITOR 50V 0.47U	1	
C7332,33		ECUM1H102ZFN	C.CAPACITOR CH 50V 1000P	2	
C7334		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7335		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C7336		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7337		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C7339		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7340		ECUM1H390JPN	C.CAPACITOR CH 50V 39P	1	
C7341		ECUM1H070DCN	C.CAPACITOR CH 50V 7P	1	
C7342		ECQV1H823JZ	P.CAPACITOR 50V 0.082U	1	
C7343		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C7345		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7346		ECUM1H390JPN	C.CAPACITOR CH 50V 39P	1	
C7347		ECUM1H070DCN	C.CAPACITOR CH 50V 7P	1	
C7348		ECQV1H393JZ	P.CAPACITOR 50V 0.039U	1	
C7349,50		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	2	
C7351,52		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7353		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C7402,03		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7404		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C7405,06		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7407,08		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C7409		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C7410		ECEA1AKA101	E.CAPACITOR 10V 100U	1	
C7651		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C7652		ECUM1H122KBN	C.CAPACITOR CH 50V 1200P	1	
C7653		ECUM1H153KBN	C.CAPACITOR CH 50V 0.015U	1	
C7654		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C7655		ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C7668		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7685		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C7801		ECQB1H102JH	P.CAPACITOR 50V 1000P	1	
C7802		ECQB1H471JZ	P.CAPACITOR 50V 470P	1	
C7803		ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C7804		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C7805		ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C7806		ECQB1H223JH	P.CAPACITOR 50V 0.022U	1	
C7815		VCYE1C104MR1	S.CAPACITOR 16V 0.1U	1	
C7816		ECEA0JKA331	E.CAPACITOR 6.3V 330U	1	
C7851		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C7852		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C7853,54		ECCF1H330JC	C.CAPACITOR 50V 33P	2	
C7855,56		ECEA1HK010	E.CAPACITOR 50V 1U	2	
D301		MA723VT	DIODE	1	
D303		MA151WK	DIODE	1	
D304		1SS283	DIODE	1	
D305-08		1SS254	DIODE	4	
D710		MA3100L	DIODE	1	
D801		MA151A	DIODE	1	
D802,03		1SS254	DIODE	2	
D1002		1SS254	DIODE	1	
D2001-05		1SS254	DIODE	5	
D2006		MA723	DIODE	1	
D2501-09		1SS254	DIODE	9	
D3002		MA28WA	DIODE	1	
D3303		MA723VT	DIODE	1	
D3305		MA151WA	DIODE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D3307,08		1SS254	DIODE	2	
D3501		1SS254	DIODE	1	
D3502		MA153	DIODE	1	
D3901		1SS254	DIODE	1	
D3902		MA4130L	DIODE	1	
D4003		MA723VT	DIODE	1	
D4004		1SS254	DIODE	1	
D4501		MA151H	DIODE	1	
D4501		1SS254	DIODE	1	
D4502		MA151H	DIODE	1	
D4502		1SS254	DIODE	1	
D4503		MA151K	DIODE	1	
D4504		MA151H	DIODE	1	
D4601,02		MA151K	DIODE	2	
D6001		1SS254	DIODE	1	
D6002		MA723VT	DIODE	1	
D6003		1SS254	DIODE	1	
D6005		MA151WK	DIODE	1	
D6006		MA151WA	DIODE	1	
D6007		MA151WK	DIODE	1	
D6008		MA151WA	DIODE	1	
D6009		11EQS04	DIODE	1	
D6011,12		11EQS04	DIODE	2	
D6013		MA723VT	DIODE	1	
D6014		1SS254	DIODE	1	
D6015		MA723VT	DIODE	1	
D7303		MA28WA	DIODE	1	
D7304		MA3100L	DIODE	1	
D7401		MA723VT	DIODE	1	
D7672,73		MA3150-H	DIODE	2	
D7851		1SS254	DIODE	1	
DL801		EFDUN124A13N	DELAY LINE	1	
DL802		EFDVR645A45A	DELAY LINE	1	
DL803		VLD0147	DELAY LINE	1	
FL3001		ELB4H020	FILTER	1	
FL4501		VLF0947M	FILTER	1	
IC301		VEFH29D	IC	1	
IC701		M51366SP	IC	1	
IC801		UPD4066BG	IC	1	
IC802		M52352FP	IC	1	
IC2001		AN3727S	IC	1	
IC2002		UPD4053BG	IC	1	
IC2501		BA6219B	IC	1	
IC2502		LM358PS	IC	1	
IC2503		XRA6439P	IC	1	
IC2504		LM358PS	IC	1	
IC2505		LM393P	IC	1	
IC3303		MN155202VZAM	IC	1	
IC3304		MN1280S	IC	1	
IC3305		UPD4066BG	IC	1	
IC3501		LC74760	IC	1	
IC3502		NJM2233BMA	IC	1	
IC3901		M52475P	IC	1	
IC4001		NJM4565DD	IC	1	
IC4501		AN1358S	IC	1	
IC4501		XLH7773KS	IC	1	
IC4502		MN4066BS	IC	1	
IC4601		BA7755AF	IC	1	
IC4901		LA7155M	IC	1	
IC4902		MN4066BS	IC	1	
IC6001		MN6755320H2G	IC	1	
IC6002		M38024V1AZ	IC	1	
IC6003		MN1280S	IC	1	
IC6005		UPD4052BG	IC	1	
IC6007		M6M80011AP	IC	1	
IC6008		TL431CLP	IC	1	
IC7301		TDA3803A	IC	1	
IC7302		TA8721SN	IC	1	
IC7401		M66006FP	IC	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC7651		M52306FP	IC	1	
IC7801		SAA4700	IC	1	
IC7851		MN158413VSSY	IC	1	
J3901,02		VJS1470	CONNECTOR(FEMALE)	2	
L303		VLQ0188J330	COIL 33UH	1	
L304		VLQ0188J390	COIL 39UH	1	
L305		ELESE220KA	COIL 22UH	1	
L306		VLQ0188J330	COIL 33UH	1	
L309		VLQ0188J101	COIL 100UH	1	
L310		VLQ0188J330	COIL 33UH	1	
L311		VLP0099	COIL	1	
L701		ELESQ680KA	COIL 68UH	1	
L711		ELQTR39XB	COIL	1	
L712		ELQTR22XB	COIL 0.22UH	1	
L714		VLQEL05F2R7K	COIL 2.7UH	1	
L716		ELESQ560KA	COIL 56UH	1	
L717,18		ELESQ680KA	COIL 68UH	2	
L719		ELESQ120KA	COIL 12UH	1	
L801,02		VLQ0188J150	COIL 15UH	2	
L803		VLQ0188J101	COIL 100UH	1	
L804		VLQ0188J270	COIL 27UH	1	
L805-07		VLQ0188J150	COIL 15UH	3	
L808		VLQ0188J330	COIL 33UH	1	
L809		ELESE5R6KA	COIL 5.6UH	1	
L810		VLQ0188J330	COIL 33UH	1	
L812		VLQ0188J101	COIL 100UH	1	
L2001		VLQ0569	COIL	1	
L2002		VLQ0556	FILTER	1	
L2501		VLP0074	FILTER	1	
L2502		ELESN330KA	COIL	1	
L2503		ELESE102KA	COIL 1000UH	1	
L3001		VLQ0188J330	COIL 33UH	1	
L3003		VLQ0188J330	COIL 33UH	1	
L3304		VLQ0188J220	COIL 22UH	1	
L3305-07		VLQ0188J330	COIL 33UH	3	
L3309		VLQ0188J150	COIL 15UH	1	
L3310,11		VLQ0188J270	COIL 27UH	2	
L3312,13		VLQ0188J330	COIL 33UH	2	
L3314		ELESN120JA	COIL	1	
L3315		VLQ0188J120	COIL 12UH	1	
L3316		ELESE101JA	COIL	1	
L3317		ELESN6R8JA	COIL	1	
L3318		ELESE5R6JA	COIL	1	
L3319		ELESE270JA	COIL	1	
L3320		VLQ0188J151	COIL 150UH	1	
L3321		VLQ0188J820	COIL 82UH	1	
L3501		VLQ0188J330	COIL 33UH	1	
L3502		VLQ0188J5R6	COIL 5.6UH	1	
L3503		VLQ0188J100	COIL 10UH	1	
L3901		ELESE101KA	COIL 100UH	1	
L4001,02		ELESE101KA	COIL 100UH	2	
L4501		ELESN471KA	COIL	1	
L4501		ELESQ101KA	COIL 100UH	1	
L4502		ELESE101KA	COIL 100UH	1	
L4502		ELESQ101KA	COIL 100UH	1	
L4601		VLQEL07F153J	COIL 15MH	1	
L4901,02		ELESE102KA	COIL 1000UH	2	
L4903,04		ELESE101KA	COIL 100UH	2	
L4905,06		ELESE102KA	COIL 1000UH	2	
L4907,08		ELESE101KA	COIL 100UH	2	
L4909,10		ELESE102KA	COIL 1000UH	2	
L6001		VLP0083	FILTER	1	
L6002		ELESE101KA	COIL 100UH	1	
L6003		VLP0083	FILTER	1	
L6007,08		VLP0083	FILTER	2	
L6009		ELESE101KA	COIL 100UH	1	
L7301		ELESQ102KA	COIL 1000UH	1	
L7402,03		VLQ0188J330	COIL 33UH	2	
L7404		VLQ0540J330	COIL 33UH	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P1001		VJP2593	CONNECTOR (MALE)	1	
P1001		VJS2593	CONNECTOR (FEMALE)	1	
P1002		VJP1142	CONNECTOR (MALE) 3P	1	
P1002		VJS1142	CONNECTOR (FEMALE)	1	
P1102		VJS1932	CONNECTOR (FEMALE)	1	
P1103		VJS1142	CONNECTOR (FEMALE)	1	
P1506		VJS1230	CONNECTOR (FEMALE)	1	
P2001		VJP1232T	CONNECTOR (MALE) 5P	1	
P2001		VJR1232	CONNECTOR	1	
P2003		VJP1230T	CONNECTOR (MALE) 3P	1	
P2003		VJS1230	CONNECTOR (FEMALE)	1	
P2004		VJS3193A015A	CONNECTOR (FEMALE) 15P	1	
P2902		VJS1232	CONNECTOR (FEMALE)	1	
P3001		VJS3193A020A	CONNECTOR (FEMALE) 20P	1	
P3002		VJP3233A006	CONNECTOR (MALE) 6P	1	
P3002		VJS1233	CONNECTOR (FEMALE)	1	
P4001		VJS2331	CONNECTOR (FEMALE)	1	
P4002		VJP1238T	CONNECTOR (MALE) 11P	1	
P4002		VJS1238	CONNECTOR (FEMALE)	1	
P4003		VJP1230T	CONNECTOR (MALE) 3P	1	
P6001		VJS3193A014A	CONNECTOR (FEMALE) 14P	1	
P6003		VJP1233T	CONNECTOR (MALE) 6P	1	
P6003		VJS1233	CONNECTOR (FEMALE)	1	
P6502		VJS1238	CONNECTOR (FEMALE)	1	
P7401		VJS3193A020A	CONNECTOR (FEMALE) 20P	1	
P7402		VJS3193A016A	CONNECTOR (FEMALE) 16P	1	
P7503,04		VJS1233	CONNECTOR (FEMALE)	2	
PP2001		VJP3042A012W	CONNECTOR (MALE) 12P	1	
PP2002		VJP3042A010W	CONNECTOR (MALE) 10P	1	
PP3001		VJP3042G009W	CONNECTOR (MALE) 9P	1	
PP3002		VJP3042A012W	CONNECTOR (MALE) 12P	1	
PP3003		VJP3042A013W	CONNECTOR (MALE) 13P	1	
PP3011,12		VJP3042A018W	CONNECTOR (MALE) 18P	2	
PP3013		VJP3042A014W	CONNECTOR (MALE) 14P	1	
PP3021-24		VJP3043A012W	CONNECTOR (MALE) 12P	4	
PP4001-03		VJP3186A018	CONNECTOR (MALE) 18P	3	
PP4501		VJP3042A017W	CONNECTOR (MALE) 17P	1	
PP7401-03		VJP3043A005W	CONNECTOR (MALE) 5P	3	
PP7404		VJP3043A006W	CONNECTOR (MALE) 6P	1	
PP7405		VJP3043A004W	CONNECTOR (MALE) 4P	1	
PP7406		VJP3043A010W	CONNECTOR (MALE) 10P	1	
PS1		VJS3043B010W	CONNECTOR (FEMALE) 10P	1	
PS301		VJS3042B009W	CONNECTOR (FEMALE) 9P	1	
PS302		VJS3042B012W	CONNECTOR (FEMALE) 12P	1	
PS303		VJS3042B013W	CONNECTOR (FEMALE) 13P	1	
PS701-03		VJS3043B005W	CONNECTOR (FEMALE) 5P	3	
PS704		VJS3043B006W	CONNECTOR (FEMALE) 6P	1	
PS2001		VJS3042B012W	CONNECTOR (FEMALE) 12P	1	
PS2002		VJS3042B010W	CONNECTOR (FEMALE) 10P	1	
PS3021-24		VJS3043B012W	CONNECTOR (FEMALE) 12P	4	
PS3302,03		VJS3042B018W	CONNECTOR (FEMALE) 18P	2	
PS3501		VJS3042B014W	CONNECTOR (FEMALE) 14P	1	
PS4001-03		VJS3186B018	CONNECTOR (FEMALE) 18P	3	
PS4501		VJS3042B017W	CONNECTOR (FEMALE) 17P	1	
PS7301,02		VJR0477	PACK PIN	2	
Q301		MSC2295	TRANSISTOR	1	
Q302		MSB709	TRANSISTOR	1	
Q703		MSD601-S	TRANSISTOR	1	
Q712		2SC1317	TRANSISTOR	1	
Q771		MSD601-S	TRANSISTOR	1	
Q801		MSC2295	TRANSISTOR	1	
Q802		MSD601	TRANSISTOR-RESISTOR	1	
Q803		MSB709	TRANSISTOR	1	
Q807		XN4501	TRANSISTOR-RESISTOR	1	
Q1001		2SD1996	TRANSISTOR	1	
Q2001		MSB709	TRANSISTOR	1	
Q3001		MSD602	TRANSISTOR-RESISTOR	1	
Q3002		2SB1322	TRANSISTOR	1	
Q3004		MSC2295	TRANSISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q3005		MSD601	TRANSISTOR-RESISTOR	1	
Q3303		MSD601	TRANSISTOR-RESISTOR	1	
Q3304		MSC2295	TRANSISTOR	1	
Q3305-07		MSD601	TRANSISTOR-RESISTOR	3	
Q3308		MSD602	TRANSISTOR-RESISTOR	1	
Q3309		MSB710	TRANSISTOR	1	
Q3310-14		MSC2295	TRANSISTOR	5	
Q3315		MSB709	TRANSISTOR	1	
Q3316		MSC2295	TRANSISTOR	1	
Q3317		MSB709	TRANSISTOR	1	
Q3318		MSD601	TRANSISTOR-RESISTOR	1	
Q3319		2SA1022	TRANSISTOR	1	
Q3320		MSD601	TRANSISTOR-RESISTOR	1	
Q3321		MSB709	TRANSISTOR	1	
Q3322		MSD1328	TRANSISTOR	1	
Q3323		MSD601	TRANSISTOR-RESISTOR	1	
Q3324		MSB710	TRANSISTOR	1	
Q3325		MSC2295	TRANSISTOR	1	
Q3326		MSD601	TRANSISTOR-RESISTOR	1	
Q3327		MSC2295	TRANSISTOR	1	
Q3329		MSD601	TRANSISTOR-RESISTOR	1	
Q3330		MSC2295	TRANSISTOR	1	
Q3331		MSB709	TRANSISTOR	1	
Q3332		MSC2295	TRANSISTOR	1	
Q3333		MSB709	TRANSISTOR	1	
Q3335		XN1501	TRANSISTOR-TRANSISTOR	1	
Q3336,37		MSD601	TRANSISTOR-RESISTOR	2	
Q3501		MSD601	TRANSISTOR-RESISTOR	1	
Q3901,02		2SD1991A	TRANSISTOR	2	
Q3903		MSD1328	TRANSISTOR	1	
Q3904		2SD1996	TRANSISTOR	1	
Q4501		2SD602A	TRANSISTOR	1	
Q4501		2SD655	TRANSISTOR	1	
Q4502,03		MSD601	TRANSISTOR-RESISTOR	2	
Q4504,05		MSB710	TRANSISTOR	2	
Q4506		2SB1378	TRANSISTOR	1	
Q4507		2SD601A	TRANSISTOR	1	
Q4508		2SB1378	TRANSISTOR	1	
Q4551		2SB561	TRANSISTOR	1	
Q4601,02		MSD1328	TRANSISTOR	2	
Q6001		2SD1991A	TRANSISTOR	1	
Q6002		MSB709	TRANSISTOR	1	
Q6003		2SD1915F	TRANSISTOR	1	
Q6004-06		MSD601	TRANSISTOR-RESISTOR	3	
Q6008		2SD1991	TRANSISTOR	1	
Q7301		MSD601-S	TRANSISTOR	1	
Q7304,05		MSD601	TRANSISTOR-RESISTOR	2	
Q7306		2SC2404-C	TRANSISTOR	1	
Q7307		2SD1328-S	TRANSISTOR	1	
QR301		MRN1404	TRANSISTOR-RESISTOR	1	
QR302		MRN2404	TRANSISTOR-RESISTOR	1	
QR303		MRN1404	TRANSISTOR-RESISTOR	1	
QR304		MRN2404	TRANSISTOR-RESISTOR	1	
QR306		MRN1403	TRANSISTOR-RESISTOR	1	
QR307		MRN1402	TRANSISTOR-RESISTOR	1	
QR308		MRN1407	TRANSISTOR-RESISTOR	1	
QR309		MRN2404	TRANSISTOR-RESISTOR	1	
QR310		DTC363EK	TRANSISTOR-RESISTOR	1	
QR311		MRN1403	TRANSISTOR-RESISTOR	1	
QR701,02		MRN1404	TRANSISTOR-RESISTOR	2	
QR803		MRN2404	TRANSISTOR-RESISTOR	1	
QR804		MRN1404	TRANSISTOR-RESISTOR	1	
QR805		MRN2404	TRANSISTOR-RESISTOR	1	
QR1001,02		MRN1402	TRANSISTOR-RESISTOR	2	
QR2001		XN1213	TRANSISTOR-TRANSISTOR	1	
QR2002		MRN2404	TRANSISTOR-RESISTOR	1	
QR2501		XN1211	TRANSISTOR-RESISTOR	1	
QR3001,02		MRN1403	TRANSISTOR-RESISTOR	2	
QR3003		MRN2402	TRANSISTOR-RESISTOR	1	
QR3302		MRN2402	TRANSISTOR-RESISTOR	1	
QR3303		MRN1403	TRANSISTOR-RESISTOR	1	
QR3304		XN4212	TRANSISTOR-TRANSISTOR	1	
QR3306-08		XN1212	IC	3	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
QR3309,10		MRN1403	TRANSISTOR-RESISTOR	2	
QR3311		MRN1402	TRANSISTOR-RESISTOR	1	
QR3315		XN4212	TRANSISTOR-TRANSISTOR	1	
QR3318		UN211D	IC	1	
QR3319,20		DTC363EK	TRANSISTOR-RESISTOR	2	
QR3321,22		MRN1404	TRANSISTOR-RESISTOR	2	
QR3325,26		DTC363EK	TRANSISTOR-RESISTOR	2	
QR4001		MRN1403	TRANSISTOR-RESISTOR	1	
QR4002,03		DTC363EK	TRANSISTOR-RESISTOR	2	
QR4004,05		MRN1404	TRANSISTOR-RESISTOR	2	
QR4501-03		MRN1403	TRANSISTOR-RESISTOR	3	
QR4504		MRN1404	TRANSISTOR-RESISTOR	1	
QR4508,09		MRN2404	TRANSISTOR-RESISTOR	2	
QR4510		MRN1403	TRANSISTOR-RESISTOR	1	
QR4602		MRN2402	TRANSISTOR-RESISTOR	1	
QR4603		MRN1404	TRANSISTOR-RESISTOR	1	
QR4901		MRN1404	TRANSISTOR-RESISTOR	1	
QR4902		UN211D	IC	1	
QR6001		MRN1402	TRANSISTOR-RESISTOR	1	
QR6002,03		MRN2402	TRANSISTOR-RESISTOR	2	
QR6004		MRN1402	TRANSISTOR-RESISTOR	1	
QR6009		XN1213	TRANSISTOR-TRANSISTOR	1	
QR6012		MRN1404	TRANSISTOR-RESISTOR	1	
QR6013		MRN1403	TRANSISTOR-RESISTOR	1	
QR6014		MRN1404	TRANSISTOR-RESISTOR	1	
QR6015		MRN2402	TRANSISTOR-RESISTOR	1	
QR7301,02		MRN1404	TRANSISTOR-RESISTOR	2	
QR7312-14		MRN1402	TRANSISTOR-RESISTOR	3	
QR7315,16		MRN1404	TRANSISTOR-RESISTOR	2	
QR7401		MRN2403	TRANSISTOR-RESISTOR	1	
QR7851		UN6211	TRANSISTOR-RESISTOR	1	
QR7852		UN6213	TRANSISTOR-RESISTOR	1	
R301		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R302		ERJ6GMYJ332	M.RESISTOR 1/10W 3.3K	1	
R303		ERJ6GMYJ183	M.RESISTOR 1/10W 18K	1	
R305		ERJ6GMYJ562	M.RESISTOR 1/10W 5.6K	1	
R309		ERJ6GEYK125	M.RESISTOR CH 1/10W 1.2M	1	
R310		ERJ6GMYJ272	M.RESISTOR 1/10W 2.7K	1	
R312		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	1	
R313		ERJ6GMYJ472	M.RESISTOR 1/10W 4.7K	1	
R314		ERJ6GMYJ393	M.RESISTOR 1/10W 39K	1	
R315		ERJ6GMYJ152	M.RESISTOR 1/10W 1.5K	1	
R317,18		ERJ6GMYJ392	M.RESISTOR 1/10W 3.9K	2	
R319		ERJ6GMYJ472	M.RESISTOR 1/10W 4.7K	1	
R321		ERJ6GMYJ392	M.RESISTOR 1/10W 3.9K	1	
R322		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R323-25		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	3	
R326		ERJ6GMYJ152	M.RESISTOR 1/10W 1.5K	1	
R327		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R328		ERJ6GMYJ682	M.RESISTOR 1/10W 6.8K	1	
R329		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R330		ERJ6GMYJ471	M.RESISTOR 1/10W 470	1	
R716		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R717		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R718		ERJ6GEYJ754	M.RESISTOR CH 1/10W 750K	1	
R719,20		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	2	
R721		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R723		ERJ6GEYJ183	M.RESISTOR CH 1/10W 18K	1	
R724		ERDS2TJ101	C.RESISTOR 1/4W 100	1	
R725		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R726		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R727		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R728		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R731		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R732		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R737		ERJ6GEYJ274	M.RESISTOR CH 1/10W 270K	1	
R738		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	1	
R740		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R741		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R743		ERJ6GEYJ470	M.RESISTOR CH 1/10W 47	1	
R744		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R745		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R746		ERDS2TJ181	C.RESISTOR 1/4W 180	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R747		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R750		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R759		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R772		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R773		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R774		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R792		ERDS2TJ120	C.RESISTOR 1/4W 12	1	
R801		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R802,03		ERJ6GMYJ471	M.RESISTOR 1/10W 470	2	
R804,05		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	2	
R806		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R807		ERJ6GMYJ271	M.RESISTOR 1/10W 270	1	
R808		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R809		ERJ6GMYJ821	M.RESISTOR 1/10W 820	1	
R810		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R811,12		ERJ6GMYJ681	M.RESISTOR 1/10W 680	2	
R813		ERJ6GMYJ272	M.RESISTOR 1/10W 2.7K	1	
R814,15		ERJ6GMYJ122	M.RESISTOR 1/10W 1.2K	2	
R816		ERJ6GMYJ152	M.RESISTOR 1/10W 1.5K	2	
R817		ERJ6GMYJ272	M.RESISTOR 1/10W 2.7K	1	
R818		ERJ6GMYJ122	M.RESISTOR 1/10W 1.2K	1	
R819,20		ERJ6GMYJ271	M.RESISTOR 1/10W 270	2	
R821		ERJ6GMYJ122	M.RESISTOR 1/10W 1.2K	1	
R822		ERJ6GMYJ154	M.RESISTOR 1/10W 150K	1	
R823		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R824		ERJ6GMYJ153	M.RESISTOR 1/10W 15K	1	
R825		ERJ6GMYJ204	M.RESISTOR CH 1/10W 200K	1	
R826		ERJ6GMYJ154	M.RESISTOR 1/10W 150K	1	
R831		ERJ6GMYJ562	M.RESISTOR 1/10W 5.6K	1	
R832		ERJ6GMYJ563	M.RESISTOR 1/10W 56K	1	
R834		ERJ6GMYJ222	M.RESISTOR 1/10W 2.2K	1	
R835		ERJ6GMYJ223	M.RESISTOR 1/10W 22K	1	
R837		ERJ6GMYJ152	M.RESISTOR 1/10W 1.5K	1	
R838,39		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	2	
R840		ERJ6GMYJ222	M.RESISTOR 1/10W 2.2K	1	
R841		ERJ6GMYJ101	M.RESISTOR 1/10W 100	1	
R843		ERJ6GMYJ562	M.RESISTOR 1/10W 5.6K	1	
R844		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R845		ERJ6GMYJ393	M.RESISTOR 1/10W 39K	1	
R846		ERJ6GMYJ471	M.RESISTOR 1/10W 470	1	
R847		ERJ6GMYJ182	M.RESISTOR 1/10W 1.8K	1	
R848		ERJ6GMZOROO	M.RESISTOR 1/10W 0	1	
R849		ERJ6GMYJ563	M.RESISTOR 1/10W 56K	1	
R1001		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R1002		ERDS1TJ822	C.RESISTOR 1/2W 8.2K	1	
R2004		ERJ6GMYJ104	M.RESISTOR 1/10W 100K	1	
R2005		ERJ6GMYJ332	M.RESISTOR 1/10W 3.3K	1	
R2011		ERJ6GMYG222	M.RESISTOR CH 1/10W 2.2K	1	
R2012		ERJ6GMYG392	M.RESISTOR CH 1/10W 3.9K	1	
R2013,14		ERJ6GMYJ223	M.RESISTOR 1/10W 22K	2	
R2018		ERJ6GMYJ104	M.RESISTOR 1/10W 100K	1	
R2019		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2501		ERX1SJ1R8	M.RESISTOR 1W 1.8	1	
R2502		ERJ6GMYG112	M.REISITOR CH 1/10W 1.1K	1	
R2503		ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	1	
R2504		ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R2505		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R2506		ERJ6GMYJ564	M.RESISTOR 1/10W 560K	1	
R2507		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R2508		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
R2509		VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R2510		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2511		ERJ6GMYJ684	M.RESISTOR CH 1/10W 680K	1	
R2513		ERJ6GMYG133	M.RESISTOR CH 1/10W 13K	1	
R2514		ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R2515		ERG12SJ561	M.RESISTOR 1/2W 560	1	
R2516		ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R2517		ERX12SJR47	M.RESISTOR 1/2W 0.47	1	
R2518		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R2519		ERJ6GMYG432	M.RESISTOR CH 1/10W 4.3K	1	
R2520		ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R2521-23		ERDS2TJ560	C.RESISTOR 1/4W 56	3	
R2524		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R2525		EROS2CKG6800	M.RESISTOR 1/4W 680	1	
R2526		ERJ6GMYJ392	M.RESISTOR 1/10W 3.9K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2527		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2528		ERJ6GMYJ562	M.RESISTOR 1/10W 5.6K	1	
R2529		ERJ6GMYJ392	M.RESISTOR 1/10W 3.9K	1	
R2530		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2531,32		ERJ6GMYJ472	M.RESISTOR 1/10W 4.7K	2	
R2533		ERJ6GMYJ393	M.RESISTOR 1/10W 39K	1	
R2534		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R2535		ERJ6GMYJ272	M.RESISTOR 1/10W 2.7K	1	
R2536		ERJ6GMYJ824	M.RESISTOR CH 1/10W 820K	1	
R2537		ERJ6GMYJ393	M.RESISTOR 1/10W 39K	1	
R2538		ERJ6GMYJ182	M.RESISTOR 1/10W 1.8K	1	
R2539		ERJ6GMYJ681	M.RESISTOR 1/10W 680	1	
R2540		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R2541		ERJ6GMYJ271	M.RESISTOR 1/10W 270	1	
R3003		ERJ6GMYJ333	M.RESISTOR 1/10W 33K	1	
R3004		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R3005		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R3006,07		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	2	
R3008		ERJ6GMYJ332	M.RESISTOR 1/10W 3.3K	1	
R3016		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R3017		ERJ6GMYJ152	M.RESISTOR 1/10W 1.5K	1	
R3018		ERJ6GMYJ392	M.RESISTOR 1/10W 3.9K	1	
R3021		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R3022		ERJ6GMYJ101	M.RESISTOR 1/10W 100	1	
R3023		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R3024		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R3025		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R3026-28		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	3	
R3301		ERJ6GMYJ681	M.RESISTOR 1/10W 680	1	
R3302-04		ERJ6GMYJ332	M.RESISTOR 1/10W 3.3K	3	
R3305-07		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	3	
R3308		ERJ6GMYJ332	M.RESISTOR 1/10W 3.3K	1	
R3310		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	1	
R3311-13		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	3	
R3315		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	1	
R3317		ERJ6GMYJ222	M.RESISTOR 1/10W 2.2K	1	
R3320,21		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	2	
R3322		ERJ6GMYG333	M.RESISTOR CH 1/10W 33K	1	
R3323		ERJ6GMYG683	M.RESISTOR 1/10W 68K	1	
R3324		ERJ6GMYJ272	M.RESISTOR 1/10W 2.7K	1	
R3325		ERJ6GMYJ183	M.RESISTOR 1/10W 18K	1	
R3326		ERJ6GMYJ331	M.RESISTOR 1/10W 330	1	
R3327		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	1	
R3328		ERJ6GMYJ471	M.RESISTOR 1/10W 470	1	
R3329		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	1	
R3330		ERJ6GMYJ823	M.RESISTOR CH 1/10W 82K	1	
R3331		ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R3333		ERJ6GMYJ222	M.RESISTOR 1/10W 2.2K	1	
R3334		ERJ6GMYJ332	M.RESISTOR 1/10W 3.3K	1	
R3335		ERJ6GMYG302	M.RESISTOR CH 1/10W 3K	1	
R3336		ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R3337		ERJ6GMYG512	M.RESISTOR CH 1/10W 5.1K	1	
R3338		ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R3339		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R3340		ERJ6GMYJ471	M.RESISTOR 1/10W 470	1	
R3341		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R3342		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R3343,44		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	2	
R3346		ERJ6GMYJ271	M.RESISTOR 1/10W 270	1	
R3347,48		ERJ6GMYJ681	M.RESISTOR 1/10W 680	2	
R3349		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R3350		ERJ6GMYJ123	M.RESISTOR 1/10W 12K	1	
R3351		ERJ6GMYJ682	M.RESISTOR 1/10W 6.8K	1	
R3352,53		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	2	
R3354		ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R3355		ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
R3356		ERJ6GMYJ223	M.RESISTOR 1/10W 22K	1	
R3357		ERJ6GMYJ472	M.RESISTOR 1/10W 4.7K	1	
R3358		ERJ6GMYJ563	M.RESISTOR 1/10W 56K	1	
R3359		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	1	
R3360		ERJ6GMYJ124	M.RESISTOR CH 1/10W 120K	1	
R3361		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	1	
R3362		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R3363		ERJ6GMYJ222	M.RESISTOR 1/10W 2.2K	1	
R3364		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3365		ERJ6GMYJ122	M.RESISTOR 1/10W 1.2K	1	
R3366		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R3367		ERJ6GMYJ182	M.RESISTOR 1/10W 1.8K	1	
R3368,69		ERJ6GMYJ822	M.RESISTOR 1/10W 8.2K	2	
R3370		ERJ6GMYG123	M.RESISTOR CH 1/10W 12K	1	
R3371		ERJ6GMYG512	M.RESISTOR CH 1/10W 5.1K	1	
R3372		ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R3373		ERJ6GMYG302	M.RESISTOR CH 1/10W 3K	1	
R3374		ERJ6GMYG821	M.RESISTOR CH 1/10W 820	1	
R3375		ERJ6GMYJ222	M.RESISTOR 1/10W 2.2K	1	
R3376		ERJ6GMYJ152	M.RESISTOR 1/10W 1.5K	1	
R3377		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R3378		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R3379		ERJ6GMYJ104	M.RESISTOR 1/10W 100K	1	
R3381		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R3382		ERJ6GMYJ222	M.RESISTOR 1/10W 2.2K	1	
R3383,84		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	2	
R3385,86		ERJ6GMYJ821	M.RESISTOR 1/10W 820	2	
R3387		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R3388		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R3389		ERJ6GMYJ681	M.RESISTOR 1/10W 680	1	
R3390		ERJ6GMYJ222	M.RESISTOR 1/10W 2.2K	1	
R3391		ERJ6GMYJ561	M.RESISTOR 1/10W 560	1	
R3392		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3393,94		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	2	
R3396		ERJ6GMYJ561	M.RESISTOR 1/10W 560	1	
R3398		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R3399		ERJ6GMYJ681	M.RESISTOR 1/10W 680	1	
R3400		ERJ6GMYJ333	M.RESISTOR 1/10W 33K	1	
R3401		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R3402		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	1	
R3501		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R3502		ERJ6GMYJ682	M.RESISTOR 1/10W 6.8K	1	
R3503		ERJ6GMYJ152	M.RESISTOR 1/10W 1.5K	1	
R3504,05		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R3506		ERJ6GMYJ104	M.RESISTOR 1/10W 100K	1	
R3507		ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R3508		ERJ6GMYG332	M.RESISTOR CH 1/10W 3.3K	1	
R3509-11		ERJ6GMYJ333	M.RESISTOR 1/10W 33K	3	
R3901-04		ERJ6GEYJ750	M.RESISTOR CH 1/10W 75	4	
R3910,11		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	2	
R3912-14		ERJ6GEYJ750	M.RESISTOR CH 1/10W 75	3	
R3915		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R3916,17		ERDS2TJ181	C.RESISTOR 1/4W 180	2	
R3946		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3950,51		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	2	
R3952		ERDS2TJ562	C.RESISTOR 1/4W 5.6K	1	
R4001,02		ERDS2TJ680	C.RESISTOR 1/4W 68	2	
R4003-08		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	6	
R4009		ERJ6GMYJ472	M.RESISTOR 1/10W 4.7K	1	
R4010		ERJ6GMYG433	M.RESISTOR CH 1/10W 43K	1	
R4011		ERJ6GMYJ152	M.RESISTOR 1/10W 1.5K	1	
R4012		ERJ6GMYJ272	M.RESISTOR 1/10W 2.7K	1	
R4013		ERJ6GMYJ682	M.RESISTOR 1/10W 6.8K	1	
R4014		ERJ6GMYG100	M.RESISTOR 1/10W 10	1	
R4015		ERJ6GMYJ822	M.RESISTOR 1/10W 8.2K	1	
R4020		ERJ6GMYJ562	M.RESISTOR 1/10W 5.6K	1	
R4021		ERJ6GMYJ333	M.RESISTOR 1/10W 33K	1	
R4022		ERJ6GMYJ273	M.RESISTOR 1/10W 27K	1	
R4028		ERJ6GMYJ222	M.RESISTOR 1/10W 2.2K	1	
R4029,30		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	2	
R4033		ERJ6GMZ0R00	M.RESISTOR 1/10W 0	1	
R4034		ERJ6GMYG393	M.RESISTOR 1/10W 39K	1	
R4035		ERJ6GMZ0R00	M.RESISTOR 1/10W 0	1	
R4036		ERJ6GMYG393	M.RESISTOR 1/10W 39K	1	
R4501		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4501		ERJ6GMYJ153	M.RESISTOR 1/10W 15K	1	
R4502		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4502		ERJ6GMYJ821	M.RESISTOR 1/10W 820	1	
R4503		ERJ6GMYJ471	M.RESISTOR 1/10W 470	1	
R4503		VRE0071E36C	RESISTOR	1	
R4504		ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	
R4504		ERJ6GMYJ153	M.RESISTOR 1/10W 15K	1	
R4505		ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	
R4505		ERJ6GMYJ153	M.RESISTOR 1/10W 15K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4506		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R4506		ERJ6GMYJ562	M.RESISTOR 1/10W 5.6K	1	
R4507		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R4507		ERJ6GMYJ222	M.RESISTOR 1/10W 2.2K	1	
R4508		ERJ6GEYG224	M.RESISTOR CH 1/10W 220K	1	
R4508		ERJ6GMYJ332	M.RESISTOR 1/10W 3.3K	1	
R4509		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R4509		ERJ6GMYJ152	M.RESISTOR 1/10W 1.5K	1	
R4510		ERJ6GEYJ621	M.RESISTOR CH 1/10W 620	1	
R4510		ERJ6GMYJ332	M.RESISTOR 1/10W 3.3K	1	
R4511		ERJ6GEYG303	M.RESISTOR CH 1/10W 30K	1	
R4511		ERJ6GMYJ223	M.RESISTOR 1/10W 22K	1	
R4512		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R4512		VRE0034E163	M.RESISTOR CH 1/10W 16K	1	
R4513		ERJ3GEYG103	M.RESISTOR CH 1/16W 10K	1	
R4513		ERJ6GMYJ332	M.RESISTOR 1/10W 3.3K	1	
R4514		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R4514		ERJ6GMYJ562	M.RESISTOR 1/10W 5.6K	1	
R4515		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R4515		ERJ6GMYJ333	M.RESISTOR 1/10W 33K	1	
R4516		ERJ6GMYJ332	M.RESISTOR 1/10W 3.3K	1	
R4517		ERJ6GMYJ152	M.RESISTOR 1/10W 1.5K	1	
R4518		ERJ6GMYG753	M.RESISTOR CH 1/10W 75K	1	
R4518		ERJ6GMZ0R00	M.RESISTOR 1/10W 0	1	
R4519		ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
R4519		ERJ6GMZ0R00	M.RESISTOR 1/10W 0	1	
R4520,21		ERJ6GMYJ822	M.RESISTOR 1/10W 8.2K	2	
R4522		ERJ6GEYJ225	M.RESISTOR CH 1/10W 2.2M	1	
R4522		ERJ6GMYJ104	M.RESISTOR 1/10W 100K	1	
R4523		ERJ6GMYJ123	M.RESISTOR 1/10W 12K	1	
R4524,25		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	2	
R4527		VRE0034E333	M.RESISTOR CH 1/10W 33K	1	
R4528		VRE0034E153	M.RESISTOR CH 1/10W 15K	1	
R4529		ERJ6GEYG562	M.RESISTOR CH 1/10W 5.6K	1	
R4530		ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4534		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R4535		ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4539		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4541		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R4542		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R4543		ERJ3GEYJ472	M.RESISTOR 1/16W 4.7K	1	
R4551,52		ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	2	
R4553		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R4554		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R4558		ERJ6GEYG224	M.RESISTOR CH 1/10W 220K	1	
R4561		ERJ6GEYG303	M.RESISTOR CH 1/10W 30K	1	
R4562		VRE0034E10C	RESISTOR	1	
R4563		ERJ3GEYG272	M.RESISTOR CH 1/16W 2.7K	1	
R4568		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R4569		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R4573		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R4577		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4578		VRE0034E473	M.RESISTOR CH 1/10W 47K	1	
R4581		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4583		ERJ3GEYJ102	M.RESISTOR 1/16W 1K	1	
R4584		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R4585		ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4586		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R4587,88		ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	2	
R4591		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4592		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R4593		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R4594		ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4603		ERJ3GEYG183	M.RESISTOR CH 1/16W 18K	1	
R4606		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4610		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R4611		ERJ6GMYJ101	M.RESISTOR 1/10W 100	1	
R4612		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R4613		ERJ6GEYJ394	M.RESISTOR CH 1/10W 390K	1	
R4615		ERJ6GEYJ133	M.RESISOTR CH 1/10W 13K	1	
R4616		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R4638		ERJ6GMZ0R00	M.RESISTOR 1/10W 0	1	
R4649		ERJ3GEYG470	M.RESISTOR CH 1/16W 47	1	
R4651		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R4652		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4653		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R4654		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R4655		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4656		ERJ6GEYG243	M.RESISTOR CH 1/10W 24K	1	
R4657		ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R4666		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R4901,02		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	2	
R4903,04		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	2	
R4905,06		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	2	
R4907,08		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	2	
R4909,10		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	2	
R4915-18		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	4	
R4921		ERJ6GEYG163	M.RESISTOR CH 1/10W 16K	1	
R4922,23		ERJ6GEYG433	M.RESISTOR CH 1/10W 43K	2	
R4924		ERJ6GEYG163	M.RESISTOR CH 1/10W 16K	1	
R4925		ERJ6GEYG473	M.RESISTOR CH 1/10W 47K	1	
R4926		ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
R4927,28		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
R4929		ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
R4930		ERJ6GEYG473	M.RESISTOR CH 1/10W 47K	1	
R4931		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R6001		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R6002,03		ERJ6GMYJ272	M.RESISTOR 1/10W 2.7K	2	
R6004		EROS2CKG2000	M.RESISTOR 1/4W 200	1	
R6005		ERJ6GMYJ471	M.RESISTOR 1/10W 470	1	
R6006		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R6007-09		ERJ6GMYJ333	M.RESISTOR 1/10W 33K	3	
R6010,11		ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	2	
R6012		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R6013		ERJ6GMYJ223	M.RESISTOR 1/10W 22K	1	
R6015,16		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	2	
R6017		ERJ6GMYJ223	M.RESISTOR 1/10W 22K	1	
R6018		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R6019		ERJ6GMYJ223	M.RESISTOR 1/10W 22K	1	
R6020,21		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	2	
R6022-24		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	3	
R6025		ERJ6GMYJ272	M.RESISTOR 1/10W 2.7K	1	
R6026		ERJ6GMYJ333	M.RESISTOR 1/10W 33K	1	
R6027		ERJ6GMYJ101	M.RESISTOR 1/10W 100	1	
R6028		ERJ6GMZOROO	M.RESISTOR 1/10W 0	1	
R6029		ERJ6GMYJ183	M.RESISTOR 1/10W 18K	1	
R6030		ERJ6GMYJ101	M.RESISTOR 1/10W 100	1	
R6031		ERJ6GMYJ472	M.RESISTOR 1/10W 4.7K	1	
R6032,33		ERJ6GMYJ271	M.RESISTOR 1/10W 270	2	
R6034		ERJ6GMYJ223	M.RESISTOR 1/10W 22K	1	
R6035		ERJ6GMYJ104	M.RESISTOR 1/10W 100K	1	
R6036		ERJ6GMYJ123	M.RESISTOR 1/10W 12K	1	
R6037,38		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	2	
R6039,40		ERJ6GMYJ223	M.RESISTOR 1/10W 22K	2	
R6041		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R6042		ERJ6GMYJ271	M.RESISTOR 1/10W 270	1	
R6044-49		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	6	
R6050		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	1	
R6051		ERJ6GMYJ271	M.RESISTOR 1/10W 270	1	
R6052		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R6053		ERJ6GMYJ682	M.RESISTOR 1/10W 6.8K	1	
R6054		ERJ6GMZOROO	M.RESISTOR 1/10W 0	1	
R6055		ERJ6GMYJ332	M.RESISTOR 1/10W 3.3K	1	
R6056,57		ERJ6GMYJ223	M.RESISTOR 1/10W 22K	2	
R6058,59		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	2	
R6060		ERJ6GMYJ223	M.RESISTOR 1/10W 22K	1	
R6061,62		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	2	
R6063		ERJ6GMYJ224	M.RESISTOR 1/10W 220K	1	
R6064		ERJ6GMYJ104	M.RESISTOR 1/10W 100K	1	
R6066		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	1	
R6067		ERJ6GMYJ181	M.RESISTOR CH 1/10W 180	1	
R6068-70		ERJ6GMYJ332	M.RESISTOR 1/10W 3.3K	3	
R6071		ERDS2TJ391	C.RESISTOR 1/4W 390	1	
R6075		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R6076		ERJ6GMYJ563	M.RESISTOR 1/10W 56K	1	
R6077		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R6078		ERJ6GMYJ223	M.RESISTOR 1/10W 22K	1	
R6079		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R6081		ERJ6GMYJ222	M.RESISTOR 1/10W 2.2K	1	
R6082		ERJ6GMYJ223	M.RESISTOR 1/10W 22K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6083-86		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	4	
R6087,88		ERJ6GMYJ332	M.RESISTOR 1/10W 3.3K	2	
R6089,90		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	2	
R6091		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	1	
R6092,93		ERJ6GMYJ271	M.RESISTOR 1/10W 270	2	
R6094,95		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	2	
R6096		ERJ6GMYJ222	M.RESISTOR 1/10W 2.2K	1	
R6097,98		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	2	
R6099		ERJ6GMYJ822	M.RESISTOR 1/10W 8.2K	1	
R6100		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	1	
R6101		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R6102,03		ERJ6GMYJ272	M.RESISTOR 1/10W 2.7K	2	
R6104		ERJ6GMZOROO	M.RESISTOR 1/10W 0	1	
R6106,07		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R6108		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	1	
R6109		ERJ6GMYJ333	M.RESISTOR 1/10W 33K	1	
R6110		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R6113,14		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	2	
R6116		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R6118		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R6120		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R6122		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R6123		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R7302		ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R7303		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R7304		ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R7305		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R7306		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R7307		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R7308		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R7309		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R7310		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R7311		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R7312		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R7313		ERJ6GEYJ824	M.RESISTOR CH 1/10W 820K	1	
R7314,15		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	2	
R7316		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R7317		ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	
R7318		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R7321		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7322		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7323		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7324,25		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	2	
R7329		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7330		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R7334-37		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	4	
R7338		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R7339		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	1	
R7340		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R7341		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R7342		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7345		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R7346		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R7347		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R7348		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R7349		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7351-53		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	3	
R7354,55		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R7403		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R7407-12		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	6	
R7413-19		ERJ6GMYJ332	M.RESISTOR 1/10W 3.3K	7	
R7420		ERJ6GMYJ152	M.RESISTOR 1/10W 1.5K	1	
R7421-23		ERJ6GMYJ332	M.RESISTOR 1/10W 3.3K	3	
R7651		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R7652		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R7653		ERJ6GEYJ124	M.RESISTOR CH 1/10W 120K	1	
R7654		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R7655		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	1	
R7676		ERG1SJ152	M.RESISTOR 1W 1.5K	1	
R7801		ERDS2TJ472	C.RESISTOR 1/4W 4.7K	1	
R7802		EROS2CKG7502	M.RESISTOR 1/4W 75K	1	
R7803,04		ERDS2TJ103	C.RESISTOR 1/4W 10K	2	
R7805		ERDS2TJ473	C.RESISTOR 1/4W 47K	1	
R7806		EROS2CKG8201	M.RESISTOR 1/4W 8.2K	1	
R7851		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R7852		ERDS2TJ332	C.RESISTOR 1/4W 3.3K	1	
SW3901		ESD172253	SWITCH	1	
T703		EIV5EC013A	TRANSFORMER	1	
T704		EIV5EC006A1	TRANSFORMER	1	
T4501		VLT0695	TRANSFORMER	1	
T4502		VLT0696	TRANSFORMER	1	
T7301		EIR7QG001B	TRANSFORMER	1	
T7302,03		EIL7QH012Q	TRANSFORMER	2	
T7304		EIS5EC007A	TRANSFORMER	1	
T7305		EIS5EC005A	TRANSFORMER	1	
VR701		EVMEASA00B23	V.RESISTOR	1	
VR801,02		EVMEASA00B13	V.RESISTOR	2	
VR803		EVMEASA00B14	V.RESISTOR	1	
VR2001-05		EVNDXAA00B54	V.RESISTOR 50K	5	
VR3001		EVNDXAA00B23	V.RESISTOR 2K	1	
VR3003		EVNDXAA00B23	V.RESISTOR 2K	1	
VR3301,02		EVNDCAA03B52	V.RESISTOR	2	
VR4002		EVNDXAA00B25	V.RESISTOR 200K	1	
VR4501		EVMECSA00B53	V.RESISTOR	1	
VR4502		EVMEASA00B24	V.RESISTOR	1	
VR4507		EVMEASA00B24	V.RESISTOR	1	
VR4509		EVMECSA00BY3	V.RESISTOR	1	
VR4512		EVNCBAA00B52	V.RESISTOR	1	
VR4550		EVMECSA00BS3	V.RESISTOR	1	
VR4551,52		EVMEASA00B55	V.RESISTOR	2	
VR7301		EVMEASA00B14	V.RESISTOR	1	
VR7326		EVMEASA00B52	V.RESISTOR	1	
VR7328		EVMEASA00B52	V.RESISTOR	1	
VR7340		EVNCBAA00B14	V.RESISTOR	1	
VR7342		EVNCBAA00B53	V.RESISTOR	1	
VR7344		EVNCBAA00B14	V.RESISTOR	1	
VR7660		EVNCBAA00B15	V.RESISTOR	1	
X710		VLF1060	CRYSTAL OSCILLATOR	1	
X711		VLF0638	CRYSTAL OSCILLATOR	1	
X716		EFCV4045A4	CRYSTAL OSCILLATOR	1	
X720		VLF1061	CRYSTAL OSCILLATOR	1	
X801		VSX0162	CRYSTAL OSCILLATOR	1	
X3302		EF0GC3584A5	CRYSTAL OSCILLATOR	1	
X3501		VSX0574	CRYSTAL OSCILLATOR	1	
X6001		VSX0583	CRYSTAL OSCILLATOR	1	
X6002		EF0EC7374A4E	CRYSTAL OSCILLATOR	1	
X7001		VSQ0565	CRYSTAL OSCILLATOR	1	
X7301,02		EFCS5R5MS5B	CRYSTAL OSCILLATOR	2	
X7303,04		EFCS5R74MS5B	CRYSTAL OSCILLATOR	2	
X7305		ELB5A016	FILTER	1	
X7851		EF0A4R0M03C2	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VEE8682	WIRE CABLE	1	(P1001-P1102)
		VEE8683	WIRE CABLE	1	(P1002-P1103)
		VEE8688	WIRE CABLE	1	(P2001-P2902)
		VEE8689	WIRE CABLE	1	(P1506-P2003)
		VEE8684	WIRE CABLE	1	(P3002-P7503)
		VEE8685	WIRE CABLE	1	(P4002-P6502)
		VEE8686	WIRE CABLE	1	(P6003-P7504)
		VWJ0775	FLAT CARD CABLE	1	(P2004-P1507)
		VWJ0776	FLAT CARD CABLE	1	(P3001-P501)
		VWJ0778	FLAT CARD CABLE	1	(P7502-P7402)
		VWJ0779	FLAT CARD CABLE	1	(P7501-P7401)
		VMA6768	EARTH ANGLE	1	
		ENVS78D7H6	TUNER	1	<!>FOR TV DEMO
		VSC3242	SHIELD COVER (MAIN)	1	FOR SRU
		VSC3241	SHIELD COVER (TOP)	1	FOR SRU
		VEJ1426	INPUT/OUTPUT JACK PLATE	1	FOR I/O
		VMX2233	SPACER	1	FOR SUB L/C
		XTV3+8GFZ	SCREW	1	FOR I/O

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEX0126	CYLINDER DRIVE C.B.A.		(RTL)
C2901-03		ECEA1VSN2R2	E.CAPACITOR 35V 2.2U	3	
C2904-06		ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	3	
C2907		ECUM1E683KBM	C.CAPACITOR CH 25V 0.068U	1	
C2908		ECUM1E473KBM	C.CAPACITOR CH 25V 0.047U	1	
C2909		ECQV1H104JS	P.CAPACITOR 50V 0.1U	1	
C2910,11		ECEA1CKS100	E.CAPACITOR 16V 10U	2	
C2912		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
IC2901		AN3815K	IC	1	
			MISCELLANEOUS		
		VMA8089	MAIN HOLDER	1	
	■	VEP05176G	HEAD AMP C.B.A.		(RTL)
C503		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C505-08		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C509		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C510,11		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C512		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C513		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C514		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C515,16		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C517,18		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C519,20		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C521		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C523-25		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C526		VCEA0JAC221	E.CAPACITOR 6.3V 220U	1	
C527		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C531		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C532		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C533,34		ECUM1H121JCN	C.CAPACITOR CH 50V 120P	2	
C535		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C536		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C537		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C538,39		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	2	
C540		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C551		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C552-54		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C555		ECEA0JPK221	E.CAPACITOR 6.3V 220U	1	
C556,57		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C559		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C560,61		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	2	
C562,63		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C564		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C565		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C566		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C567		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C569		ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
IC501		AN3336SB	IC	1	
IC502		AN3370K	IC	1	
IC551		BA7743FS	IC	1	
L501-03		VLQ0540K330	COIL 33UH	3	
L504		VLQ0540J5R6	COIL 5.6UH	1	
L551,52		VLQ0540K330	COIL 33UH	2	
P501		VJS3193B020A	CONNECTOR (FEMALE) 20P	1	
P502		VJS2603	CONNECTOR (FEMALE)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q501		MSB709	TRANSISTOR	1	
Q502		MSD601	TRANSISTOR-RESISTOR	1	
QR501		MRN2404	TRANSISTOR-RESISTOR	1	
R501		ERJ6GMYJ101	M.RESISTOR 1/10W 100	1	
R502		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R503		ERJ6GMYG752	M.RESISTOR CH 1/10W 7.5K	1	
R504		ERJ6GMYJ333	M.RESISTOR 1/10W 33K	1	
R505		ERJ6GMYJ182	M.RESISTOR 1/10W 1.8K	1	
R506		ERJ6GMYJ392	M.RESISTOR 1/10W 3.9K	1	
R507		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R508		ERJ6GMYJ331	M.RESISTOR 1/10W 330	1	
R509-12		ERJ6GMYJ101	M.RESISTOR 1/10W 100	4	
R513		ERJ6GMYJ103	M.RESISTOR 1/10W 10K	1	
R514		ERJ6GMYJ274	M.RESISTOR CH 1/10W 270K	1	
R517		ERJ6GMYJ100	M.RESISTOR 1/10W 10	1	
R518,19		ERJ6GMYJ101	M.RESISTOR 1/10W 100	2	
R520		ERJ6GMYJ152	M.RESISTOR 1/10W 1.5K	1	
R521,22		ERJ6GMYJ822	M.RESISTOR 1/10W 8.2K	2	
R523		ERJ6GMYJ152	M.RESISTOR 1/10W 1.5K	1	
R524		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	
R525		VRE0034E103	M.RESISTOR CH 1/10W 10K	1	
R526		ERJ6GMYG133	M.RESISTOR CH 1/10W 13K	1	
R551		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	1	
R552		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R553		ERJ6GMYJ273	M.RESISTOR 1/10W 27K	1	
R554		ERJ6GMYJ243	M.RESISTOR 1/10W 24K	1	
R556		ERJ6GMYJ333	M.RESISTOR 1/10W 33K	1	
R557		ERJ6GMYJ182	M.RESISTOR 1/10W 1.8K	1	
R558		ERJ6GMYJ332	M.RESISTOR 1/10W 3.3K	1	
R559,60		ERJ6GMYJ152	M.RESISTOR 1/10W 1.5K	2	
R561		ERJ6GMYJ332	M.RESISTOR 1/10W 3.3K	1	
R562		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
R563		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R564		ERJ6GMYJ224	M.RESISTOR 1/10W 220K	1	
R565		ERJ6GMYJ473	M.RESISTOR 1/10W 47K	1	
R566		ERJ6GMYJ273	M.RESISTOR 1/10W 27K	1	
R567		ERJ6GMYJ153	M.RESISTOR 1/10W 15K	1	
R568		ERJ6GMYJ271	M.RESISTOR 1/10W 270	1	
R569		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R570		ERJ6GMYJ102	M.RESISTOR 1/10W 1K	1	
			MISCELLANEOUS		
		VSC3714	SHIELD COVER (TOP)	1	
		VSC3478	SHIELD COVER (MAIN)	1	
		VSC3715	SHIELD COVER (BOTTOM)	1	
	■	VEP06926A	VR C.B.A.		(RTL)
C6501,02		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	2	
C6503,04		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C6505		ECEA1EKA3R3	E.CAPACITOR 25V 3.3U	1	
C6506		VCEA1HAC3R3	E.CAPACITOR 16V 3.3	1	
C6507		ECEA1AKA330	E.CAPACITOR 16V 33U	1	
C6508		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C6509		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6510		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C6511-14		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	4	
C6515,16		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
IC6501		VCR0172	IC	1	
IR6501		VEK6407	IR RECEVER UNIT	1	
L6501,02		ELESN471KA	COIL	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L6503,04		ELESE221KA	COIL 220UH	2	
L6506,07		ELESE101KA	COIL 100UH	2	
P6502		VJP1251T	CONNECTOR (MALE) 11P	1	
PS6501		VJS3405A009A	CONNECTOR (FEMALE) 9P	1	
PS6502		VJS3405A011A	CONNECTOR (FEMALE) 11P	1	
R6501		ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
R6502		ERJ6GEYG331	M.RESISTOR CH 1/10W 330	1	
R6503,04		ERJ6GEYG271	M.RESISTOR CH 1/10W 270	2	
R6505		ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
R6506		ERJ6GEYG331	M.RESISTOR CH 1/10W 330	1	
R6508,09		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	2	
R6511		ERDS2TJ470	C.RESISTOR 1/4W 47	1	
SW6501,02		EVQ11409K	SWITCH	2	
VR6501		EWAKABX15C23	V.RESISTOR	1	
VR6502		EWAKFKX15B24	V.RESISTOR	1	
VR6503		EWANYJX1054J	V.RESISTOR	1	
			MISCELLANEOUS		
		VGU4495	REC VR KNOB	2	
		VEJ1419	FRONT JACK PLATE	1	
		VYC0599	REC VR COVER UNIT	1	
	■	VEP07739A	TIMER C.B.A.		(RTL)
C1701		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C1702		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1703		ECKD2H471KB	E.CAPACITOR 500V 470U	1	
C1704		ECEA1VKA220	E.CAPACITOR 35V 22U	1	
C1705		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C1706		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7501		ECRHC030E11	.CAPACITOR V	1	
C7502		ECEA0JKS330	E.CAPACITOR 6.3V 33U	1	
C7503		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7504		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C7505,06		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	2	
C7507,08		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	2	
C7509		ECUM1H040DCN	C.CAPACITOR CH 50V 4P	1	
C7510		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C7511		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C7512		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7513		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C7514,15		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C7517		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C7518		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7519-30		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	12	
C7531,32		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C7533-36		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	4	
C7537		ECEA1HKA220	E.CAPACITOR 50V 22U	1	
C7538		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7539		ECUM1H561JCN	C.CAPACITOR CH 50V 560P	1	
D1701		MA1270-H	IC	1	
D1702		MA185	DIODE	1	
D7501		MA3075	DIODE	1	
D7502-06		MA221	DIODE	5	
D7510		MA221	DIODE	1	
D7512		MA221	DIODE	1	
D7514		MA221	DIODE	1	
D7517,18		MA221	DIODE	2	
D7520		MA221	DIODE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D7522		MA221	DIODE	1	
D7526		MA221	DIODE	1	
D7531,32		MA221	DIODE	2	
D7534,35		MA221	DIODE	2	
D7546-50		MA221	DIODE	5	
D7557		LN81RCPHL	LED	1	
D7559,60		LN81RCPHL	LED	2	
D7562,63		MA221	DIODE	2	
DP7501		VSL0276	DISPLAY TUBE	1	
IC7501		M37502V4BJ	IC	1	
IC7502		PST7026	IC	1	
IC7503		XLJ9021B	IC	1	
IC7504		PST7043	IC	1	
IC7505		BA6810S	IC	1	
L7501		VLQEL05S101K	COIL 100UH	1	
L7502		VLQ0188J330	COIL 33UH	1	
P7501		VJS3193A020A	CONNECTOR (FEMALE) 20P	1	
P7502		VJS3193A016A	CONNECTOR (FEMALE) 16P	1	
P7503,04		VJP1246T	CONNECTOR (MALE) 6P	2	
P7505,06		VJS2183	CONNECTOR (FEMALE)	2	
PP7501		VJP3405A009W	CONNECTOR (MALE) 9P	1	
PP7502		VJP3405A011W	CONNECTOR (MALE) 11P	1	
Q1701		2SD973A	TRANSISTOR	1	
QR7501,02		MRN2403	TRANSISTOR-RESISTOR	2	
QR7503		MRN2402	TRANSISTOR-RESISTOR	1	
QR7506		MRN1402	TRANSISTOR-RESISTOR	1	
QR7507		MRN1404	TRANSISTOR-RESISTOR	1	
QR7508-11		MRN2404	TRANSISTOR-RESISTOR	4	
QR7512-14		MRN2403	TRANSISTOR-RESISTOR	3	
R1701		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R1702		ERDS2TJ101	C.RESISTOR 1/4W 100	1	
R1703		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R7501,02		ERJ6GEYJ820	M.RESISTOR CH 1/10W 82	2	
R7503		ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
R7504		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7505-07		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	3	
R7508		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R7509		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R7510		ERJ6GEYK106	M.RESISTOR CH 1/10W 10M	1	
R7511		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R7512,13		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R7514-16		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	3	
R7517,18		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	2	
R7519-22		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	4	
R7526		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R7528,29		ERJ6GMZOROO	M.RESISTOR 1/10W 0	2	
R7531-41		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	11	
R7542-56		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	15	
R7557-59		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	3	
R7560-62		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	3	
R7563		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R7564		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R7565		ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R7566		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R7569		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R7570		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R7571		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7572		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7573		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R7574		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220K	1	
RX7501,02		EXBF6E104J	RESISTOR-RESISTOR	2	
RX7503		EXBF8E104J	RESISTOR-RESISTOR	1	
SW7502,03		ESD172355	SWITCH	2	
SW7504,05		ESD172255	SWITCH	2	
SW7508		ESD172355	SWITCH	1	
T1701		ETE13K80AY	TRANSFORMER	1	
VR4004		EVNCBAA00B53	V.RESISTOR	1	
X7501		VSX0506	CRYSTAL OSCILLATOR	1	
X7502		VSX0094	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VMD0504	LED HOLDER	1	
		VJF1043	FIP HOLDER	1	
	■	VEP01558A	POWER C.B.A.		(RTL)
C1103		ECKDWS471MBH	E.CAPACITOR	1	<!>
C1106		ECKDWS471MBH	E.CAPACITOR	1	<!>
C1109		ECKDWS152MEH	E.CAPACITOR	1	<!>
C1110		ECQU2A224MN	P.CAPACITOR 250V 0.22U	1	<!>
C1111		ECQU2A154MNB	P.CAPACITOR 250V 0.15U	1	<!>
C1112		ECEC2GG680B	E.CAPACITOR 400V 68U	1	
C1113		ECQE6473KF	P.CAPACITOR 50V	1	
C1114		VCK0106K121	CAPACITOR	1	
C1115		ECA1VXLV470	E.CAPACITOR 35V 47U	1	
C1116		ECA1CXLV101	E.CAPACITOR 16V 100U	1	
C1117		ECKF1H102KB	C.CAPACITOR 50V 1000P	1	
C1118		ECKF1H271KB	C.CAPACITOR 50V 1000P	1	
C1121		ECCD2H101J	C.CAPACITOR 500V 100P	1	
C1123		ECEA1JFE560	E.CAPACITOR 35V 56U	1	
C1124		ECEA1CFE331	E.CAPACITOR 16V 330U	1	
C1125		ECEA1DFZ681	E.CAPACITOR 20V 680U	1	
C1126		ECEA1AFZ681	E.CAPACITOR 16V 680U	1	
C1127		ECEA1JFE470	E.CAPACITOR 63V 47U	1	
C1128		ECEA1CFE121	E.CAPACITOR 16V 120U	1	
C1129		ECEA1DFZ681	E.CAPACITOR 20V 680U	1	
C1130		ECEA1AFZ681	E.CAPACITOR 16V 680U	1	
C1131-34		ECKF1H102ZF	C.CAPACITOR 50V 1000P	4	
C1135,36		ECA1CGE101X	E.CAPACITOR 16V 100U	2	
C1139		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C1140,41		ECA1CGE101X	E.CAPACITOR 16V 100U	2	
D1102		EM1B	DIODE	1	<!>
D1103		AP01C	DIODE	1	
D1104		MA178	DIODE	1	
D1105		1SS254	DIODE	1	
D1106		MA4200H	IC	1	
D1107		MA723VT	DIODE	1	
D1108		10ELS2	DIODE	1	
D1109		MA185	DIODE	1	
D1110		FMLG12SP	DIODE	1	
D1111		FMBG14L	DIODE	1	
D1112		SV03YS	DIODE	1	
D1115-17		EM1B	DIODE	3	<!>
D1118		MA4056L	DIODE	1	
D1119		1SS254	DIODE	1	
D1120		MA4120H	DIODE	1	
D1121,22		1SS254	DIODE	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC1101		STRM6547LF	IC	1	<!>
IC1103		SI3120C	IC	1	
IC1104		SI-3050CA	IC	1	
L1101,02		ELF18D221F	COIL 220UH	2	<!>
L1103-09		EXCELSA35	COIL	7	
L1110		VLP0074	FILTER	1	
L1111,12		ELESE101KA	COIL 100UH	2	
L1113,14		VLQ0410	COIL	2	
L1115,16		VLP0083	FILTER	2	
P1101		VJS2625	CONNECTOR (FEMALE)	1	<!>
P1102		VJP1930T	CONNECTOR (MALE)	1	
P1103		VJP1149	CONNECTOR (MALE) 3P	1	
Q1101		PC120FY	TRANSISTOR	1	<!>
Q1102		2SD1996-R	TRANSISTOR	1	
R1101		ERC12AGM334	S.RESISTOR 1/2W 330K	1	<!>
R1102		VRE0087	RESISTOR	1	
R1103		ERG3SJ683	M.RESISTOR 3W 68	1	
R1104,05		ERDS2FJ224	C.RESISTOR 1/4W 220K	2	
R1106		ERDS2FJ221	C.RESISTOR 1/4W 220	1	
R1109		ERDS2FJ561	C.RESISTOR 1/4W 560	1	
R1110		ERDS2FJ391	C.RESISTOR 1/4W 390	1	
R1111		ERX1SJ1R5	M.RESISTOR 1W 1.5	1	
R1112		ERDS2FJ103	C.RESISTOR 1/4W 10K	1	
R1113		ERDS2FJ682	C.RESISTOR 1/4W 68K	1	
R1114		ERDS2FJ101	C.RESISTOR 1/4W 100	1	
R1115		ERDS2TJ271	C.RESISTOR 1/4W 270	1	
R1122		EROS2CKG62R0	M.RESISTOR 1/4W 68	1	
R1123		EROS2CKG3001	M.RESISTOR 1/4W 3K	1	
R1124		EROS2CKG20R0	M.RESISTOR 1/4W 20.0	1	
R1125		EROS2CKG1201	M.RESISTOR 1/4W 1.2K	1	
R1126		ERDS1TJ562	C.RESISTOR 1/2W 5.6K	1	
R1127		ERDS2FJ224	C.RESISTOR 1/4W 220K	1	
T1101		VLT0718	TRANSFORMER	1	<!>
			MISCELLANEOUS		
		VJF0318	FUSE HOLDER	2	<!>
		VMZ1184	CAPACITOR COVER (B)	1	<!>
	■	----------	MCEHANISM CONNECTION C.B.A.		(RTL)
D1501		LN59L.VT	IC	1	
IC1501,02		ON1387	IC	2	
P1503		VJS3316A002	CONNECTOR (FEMALE) 2P	1	
P1504		VJS3317A004	CONNECTOR (FEMALE) 4P	1	
P1505		VJS3193B014A	CONNECTOR (FEMALE) 14P	1	
Q1501,02		PN205L-NC.VT	TRANSISTOR	2	
SW1501		VES0695	SWITCH	1	
SW1502		VST0176	SWITCH	1	
			MISCELLANEOUS		
		VMD2029	REEL GUIDE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP00S86A	POWER TRANSISTOR C.B.A.		(RTL)
P1506		VJP1230T	CONNECTOR (MALE) 3P	1	
Q1503		2SB941QBB	TRANSISTOR	1	
	■	VEP00S75A	MOTOR C.B.A.		(RTL)
			MISCELLANEOUS		
		VJP3316B002	CONNECTOR (MALE) 2P	1	

INTERNAL REFERENCE CODES

NOTE: This chart is only for internal reference.
Do not order any parts according to these codes.

P. C. B.	FILM CODE
SYUGO (MAIN/SUB A/CAP DR)	HOTF00-0231A
MAIN	HOTF00-03A37
SUB AUDIO	HOTF00-04417
CAP DRIVE	HOTF00-02412
SYUGO (L&C/SUB L/C)	HOTF00-0232A
LUMINANNCE & CHROMINANCE	HOTF00-03A39
SUB LUMI & CHRO	HOTF00-03A40
POWER	HOTF00-01558
INPUT & OUTPUT	HOTF00-03A38
VPS	HOTF02-07538
TV DEMODULATOR	HOTF00-07749
DECORDER	HOTF00-07671
HEAD AMP	HOTF04-05176
HI-FI AUDIO	HOTF00-04410
VR	HOTF00-06926
TIMER	HOTF00-07739
MECHA CONNECTION	HOTF00-00T87
CYLINDER DRIVE	HOTF02-00R99
POWER TRANSISTER	HOTF00-00S86
LOADING MOTOR	HOTF00-00S75